MEETING NOTES
Iowa Advisory Council on Automated Transportation (ATC)
Public Safety & Enforcement (PS&E) Subcommittee Meeting
Wednesday, September 25, 2024
11:00 a.m. - 12:00 p.m. CT

Action Items:

- Create AV Working Group: Anyone interested in being a part of the group should email Matt Miller, Cheryl Roe, or Colonel Fulk.
- If you plan to attend the ATC meeting on October 29th at the University of Iowa Driving Safety Research Institute (DSRI), please complete the questionnaire regarding dietary needs and ADS for Rural America demonstration rides when it arrives in your email.
- Cherie to investigate the opportunity to instrument comma.ai onto a DSRI vehicle for potential demonstrations.

Attendance – 22 attendees

- Colonel Nathan Fulk – Department of Public Safety, Iowa State Patrol (PS & E Chair)
- Stephan Bayens – Department of Public Safety
- Tracy Barker – Department of Public Safety, Iowa State Patrol
- Susan deCourcy – National Highway Traffic Safety Administration, Region 7
- Shirley McGuire – Federal Motor Carrier Safety Administration
- Todd Coffelt – Iowa Department of Natural Resources
- Brian Ortner – AAA The Auto Club Group - Nebraska/Iowa
- Matt Burkey – Safe Routes to School Coordinator for Iowa Bicycle Coalition
- Neal Hawkins, Skylar Knickerbocker and Jonathon Wood – Iowa State University
- Dan McGehee, Cherie Roe – University of Iowa, Driving Safety Research Institute (DSRI)
- Larry Grant, Josh Halterman, Ashley Hochberger, Alex Jansen, Dennis Kleen, Hossein Naraghi, Sam Sturtz, Jan Laaser-Webb, and Matt Miller – Iowa DOT

1. **Welcome and introductions** – *Colonel Nathan Fulk, Public Safety and Enforcement Subcommittee Chair*
    a. Colonel Fulk welcomed everyone and briefed the group on the meeting guidelines and provided an overview of the agenda.
    b. There were not any new subcommittee members to introduce.

2. **American Association of Motor Vehicle Administrators (AAMVA) Automated Vehicle (AV) Subcommittee Update –** *Colonel Fulk*
    a. Col. Fulk provided an update on the Iowa State Patrol's involvement with the AAMVA AV subcommittee. This subcommittee collaborates with jurisdiction members, law enforcement, federal agencies, and other stakeholders to gather, organize, and share information with the AAMVA community regarding the development, design, testing, use, and regulation of AV and other emerging vehicle technologies. Lt. Mike Current represents the Iowa State Patrol. Other committee members include Paul Stier and

Brian Ursino from AAMVA, as well as individuals from the Minnesota DOT, California Highway Patrol, Ohio State Highway Patrol, and Canada. Lt. Mike Current's involvement will help the group stay informed about developments in the AV space and their impact on public safety.

b. At a recent AAMVA AV subcommittee meeting, comma.ai was discussed. This device can be installed in certain vehicle models to enable them to drive more like Tesla's "autopilot." Col. Fulk and others expressed interest in learning more about this device and its potential safety implications.
    - Matt proposed learning about the device through a demonstration ride with someone who recently purchased the device.
    - Dan McGehee proposed that DSRI could investigate whether it is feasible to purchase the device and perform testing on one of their research vehicles. If feasible, Matt expressed interest in similar testing be done with Tesla's "Full Self-Driving (Supervised)".

c. Col. Fulk mentioned that the AAMVA subcommittee has discussed the need for a potential requirement for AVs to be equipped with an exterior light beacon. This beacon would signal to others, especially law enforcement, when the vehicle is operating in autonomous mode or platooning with another vehicle.

3. **Advanced Driver Assistance Systems in near-crashes, crashes and crash investigations –** *Cheryl Roe, Automated Vehicle Transportation & Outreach Specialist, University of Iowa Driving Safety Research Institute*
    a. Cheryl shared findings from a recently completed project titled "Advanced Driver Assistance Systems (ADAS) in Near-Crashes, Crashes, and Crash Investigations." Funded by the Federal Highway Administration and the Departments of Transportation in Iowa and Colorado, the project aimed to gain insight into the impact of ADAS features in real-world crashes and near-crashes. A Technical Advisory Committee of stakeholders from each state provided technical insight. Researchers collected data from surveys and interviews with motorists and officers who investigate crashes in Iowa and Colorado. The motorist interviews focused on driver use and understanding of ADAS, as well as crash characteristics such as weather, infrastructure, and traffic. Officer interviews concentrated on their understanding of ADAS, methods of ADAS identification, reporting of ADAS on crash reports, and ADAS training. The presentation highlighted some of the officers' findings and recommendations.
    b. The project focused on nine different ADAS. The ADAS selected may:
        - **provide a warning** when a potential collision is detected: Forward Collision Warning (FCW), Lane Departure warning (LDW), Blind Spot Warning (BSW).
        - **provide some kind of intervention** when a potential collision or lane departure is detected: Automated Emergency Braking (AEB), Automated Emergency Steering (AES), Lane Keeping Assistance (LKA).
        - **provide some kind of driving control assistance**: Adaptive Cruise Control (ACC), Lane Centering Assistance (LKA) and Active Driving Assistance (ADA).
    c. Summary of some officer findings

- Common themes emerged among both motorists and officers regarding ADAS. Both groups exhibited a range of understanding, with greater familiarity with specific systems like BSW, FCW, LDW, and ACC. Both noted a learning curve when adapting to ADAS in personal or work vehicles. Motorists admitted to potentially over-relying on these systems, a concern echoed by officers. Additionally, the locations of sensors and cameras, or which systems worded with, often caused confusion. Nuisance alarms, particularly with FCW and lane-keeping systems, were a common complaint among users.
- Officers face several barriers in considering ADAS in crash investigations, including a lack of training and the absence of ADAS in Iowa's crash reports. Officers believe special equipment or technical accident investigation training is needed. Limited equipment resources and the perception that ADAS doesn't change crash outcomes also hinder consideration. Officers emphasized that driver responsibility remains paramount, even if ADAS systems provide warnings or apply brakes. Officers also noted that ADAS is not relevant in crashes involving speeding, impairment, or other intentional acts.
- Officers noted that ADAS features like FCW and AEB often mitigated crashes, raising questions about how many incidents these systems prevent or leave unreported. However, ADAS sometimes contributed to crashes, particularly when AEB-equipped vehicles were rear-ended by others without AEB, either while avoiding a collision or braking unnecessarily. Overreliance on systems like BSW, LKA, and Tesla's "autopilot" was also identified as potential factors in some crashes.

d. Recommendations
    - **Officer Training**: Over 80% of officers expressed interest in training and agreed that learning about ADAS would enhance their crash investigation skills. The training should provide general education on ADAS, covering system functions, relevant questions to ask, and which systems are associated with different crash types. Ideally, this training would be conducted through in-person sessions with in-vehicle demonstrations. Interviewees also suggested providing reference materials and incorporating the training into the annual in-service. If in-person training isn't feasible, a 30-minute virtual session is recommended.
    - **Crash Reporting**: When updating crash reports, proceed slowly and thoughtfully, involving officer input. Ensure any additions are simple, easy to complete, and quick. Despite their specialized training and equipment, technical investigators still find it challenging to determine if ADAS was active during a crash. One suggestion was to use CARFAX for Police to identify ADAS, but the research team was unable to verify the type of information it can provide.
    - **Lane Markings**: Adequate lane markings are crucial for lane systems, so it's important to ensure they are clear and well-maintained. Worn-out or leftover lines from construction can confuse these systems. Using wider and higher contrast markings enhances visibility for both technology and human drivers. Additionally, maintaining clear markings through ramps and intersections, and

providing extra space between the lane marker and the pavement edge, can be beneficial.

- **Integration of ADAS Information**: It was suggested that Departments of Transportation (DOTs) and Infrastructure Owners and Operators (IOOs) explore options to integrate ADAS information into the vehicle registration system. This integration could serve as a valuable tool for identifying ADAS-equipped vehicles and educating both motorists and officers about these systems.

e. Discussions
   - There was a discussion about rear-end collisions and the use of AEB. Typically, the driver who rear-ends another vehicle is cited. Col. Fulk suggested including this topic in the technical reconstruction program training to share these lessons and concepts with all law enforcement in Iowa.
   - Skylar Knickerbocker emphasized the need for regular vehicle software updates. Cheryl highlighted the importance of users being aware of each change. Dan pointed out that software updates can be done in different ways: some are over-the-air at home, while others require a visit to the service department.
   - Dan noted that each manufacturer stores ADAS information differently, and it is not always recorded in the Event Data Recorder (EDR). He suggested that developing a software database containing vehicle make, model, and version number could be beneficial and serve as a valuable tool for technical investigations
   - Col. Fulk thanked Cheryl for her work on the project and is hopeful that the technology is helping. He advocated for similar efforts to reinforce the hands-free legislation. He expressed a desire to discuss this further at the upcoming ATC meeting in October.

4. **AV Update –** *Matt Miller*
   a. Iowa DOT Website, along with other state agency websites, is undergoing updates to become more mobile-friendly and improve navigation. The Iowa DOT Automated Transportation page has seen updates, particularly within the Policies and Procedures. The page references the Iowa code allowing vehicles to operate without a driver. Currently, cities and counties cannot do much to prevent it. The Iowa DOT is working with AV companies to ensure responsible implementation. The site provides contact information for vendors, directing them to Toni Smith at the DOT, who has also reached out to other states to gather valuable information
   b. Iowa DOT Meetings with Texas, City of Austin, and Ontario.
      - After attending the Automated Road Transportation Symposium, Toni Smith, Cheryl, and Matt met with representatives from the Texas Connected and Autonomous Vehicle (CAV) Task Force, the City of Austin, and the Ontario Ministry of Transportation (MTO). They aimed to understand how they prepared for AV testing and learn about their experiences with various companies.
      - Each representative discussed having stakeholder groups that meet periodically to discuss AV topics. The Texas CAV Task Force includes members from TxDOT,

local governments, transportation officials, community members, and industry. The Texas Transportation Institute assists subcommittees, especially with white papers. They produce reports every other year.

- The City of Austin has various stakeholder groups: police, fire, EMS, and an airport working group meet monthly, another city group meets monthly, and a larger stakeholder group, including disability groups, universities, school police, schools, Texas DOT, NHTSA, and AV companies, meets twice a year. The School for the Deaf wants AVs to avoid certain streets, while the School for the Blind wants AVs. This larger group also discusses handling special events like football games and concerts.
- Like Iowa, regulatory control is minimal. Austin provides an "Expectations" document, including maps of schools, fire departments, bridges, and a calendar of events. Austin also provides information about how the city plans to issue citations and ask about ride-share needs for electricity. Texas representatives mentioned something similar, a "welcome" packet, which includes considerations and contacts.
- Texas and Austin encourage AV companies to showcase their trucks at "petting zoos" to various entities, including police, fire, EMS, government, and the public. This allows people to see, touch and interact with the vehicles which can increase awareness about what to expect. They suggest getting AV companies in front of elected officials before setting up operations, emphasizing the value of building relationships.
- Texas has an interactive AV Dashboard that informs the public about each AV company operating in Texas. The dashboard includes the type of service, vehicle description, status in Texas, safety driver, location, website, and service area.
- Austin has incident dashboard that displays various types of AV related incidents such as blocking traffic, collisions, near misses, nuisances, ignoring Austin Police Department (APD) directions, or safety concerns. The dashboard includes the entity that submitted the report such as the fire department, APD, Austin Transportation & Public Works, EMS, and the public shown on a map and a chart. The public can report an AV incident using an Autonomous Vehicle Incidents Public Form. These incidents can be filtered by AV company or viewed collectively. Each incident is reported to the AV company almost immediately.
- AV companies may request specific road markings and signs, raising questions about infrastructure investment. One example provided was the standardization of signs. For instance, a sign indicating "No Turn on Red during school hours" may confuse AVs.
- AV companies will seek access to data exchanges like the Work Zone Data Exchange. Sharing information about significant events that may impact roads is crucial. These events could be planned, such as construction, sporting events, and concerts, or unplanned, like fires, shootings, or hazmat-related incidents.
- Austin is working to incorporate Mobility Data Specification (MDS) through Open Mobility Foundation. MDS is a digital tool that helps cities manage

transportation. It can standardize communication and data-sharing between cities and private companies which can enhance vehicle management and better outcomes for the community.

- Communication is imperative to building trusting relationships. It is important to know the key points of contact within the AV company, but also within the municipalities, fire & law enforcement departments, and the state. The AV should provide the "BIG" picture upfront: short-term and long plan, type of vehicle, number of vehicles, ODD, route, and whether there will be safety operators. AV companies should also communicate changes, such as removing safety operators or changing the ODD or route. A suggestion was made to consider a dedicated email account for AVs, which the then would be forwarded to the other points of contact.
- Ontario Automated Vehicle Pilot Program is a 10-year pilot program which allows AVs to test on Ontario's roads. Initially in 2016, a driver was required, but since 2019, this requirement has been removed. AV companies must apply to the MTO to conduct test. The application must specify where and when tests will occur, the duration, the types of vehicles being used, and whether the vehicles will include driver(s). Additionally, companies must provide details about the vehicle including compliance with federal safety measures and standard safety equipment like steering wheels and pedals. Applications for vehicles lacking standard safety equipment may take longer because they need federal approval. The program requires that each AV company provide an annual report about their testing for each AV type. The report must include number of vehicles being tested, kilometers travelled, roadway types, speed limits, road conditions, time of day, and system disengagement which were system-generated, and operator generated. Unlike Texas and Austin, data is not publicly shared.
- Considerations: Iowa needs to decide the level of control they want over AV testing, including when authorities can step in and pause operations. While involving municipalities can lead to positive outcomes, it may also impact timelines. Other considerations include the state's comfort level with the number and type of AVs, suitable and off-limit locations for testing, thresholds for bad weather, and whether the AV company has its own thresholds for testing. Additionally, the state should determine if it wants safety assessment reports and, if so, what requirements these reports should meet.

c. Discussion

- Dan requested to see AV company safety plans. He would like to understand companies' plans for safety drivers, training of drivers, when they decide to remove the driver, when there is a crash, who is called, when does the DOT get involved, when does the NTSB get notified, etc.
- Dan emphasized the need for a collective communication plan for the state which would include State Patrol, local law enforcement, and the DOT to handle media inquiries. He highlighted that Andrea Henry, and her team should have a

plan in place to manage information effectively, especially in the event of a crash. Col. Fulk agreed that this type of plan will be useful for all jurisdictions involved for a safe roll-out.

5. **AV Working Group Roundtable Discussion –** *Matt Miller*
    a. Director Marler tasked Matt with forming an AV Task Force to focus on future AV deployment, policy, and information gathering. The group would meet and report back to the ATC group and potentially the governor's office.
    b. Matt called for volunteers, welcoming anyone interested. He suggested subcommittee chairs join the group. He also emphasized the importance of including member from the communities that may be impacted by a deployment.
    c. If interested, please contact Matt Miller, Cheryl Roe, and/or Colonel Fulk.
    d. Dan suggested that Andrea Henry be a part of the group.

6. **Driving Safety Research Institute** – *Cheryl Roe*
    a. Cheryl was going to share information about three AV-related projects at DSRI, one funded and two proposed however due to time constraints it was not included. Summary of those projects provided.
    b. ADAS for Bustang Intercity and Regional Bus Transit – The Colorado DOT, in partnership with Colorado State University and the University of Iowa, received funding from the Federal Transit Administration for this demonstration project. It will feature three fully equipped public transit service buses of different sizes, each outfitted with aftermarket ADAS technology, including ACC, AEB, blind spot intervention, and lane-keeping assistance. These buses will operate on two different revenue service routes. DSRI will focus on training transit drivers on the ADAS and evaluating the impact of this training. For additional project details: Project fact sheet
    c. Rural Autonomous Vehicle Research Program – DSRI along with several other universities – Virgina Tech, Auburn, and Western Virgina – submitted two proposals for this program: one for the "movement of people", and one for the "movement of goods". DSRI's role leverages years of testing on Iowa's rural roadways to address shortcoming and advance the project to the next level. The team was notified that the "movement of people" proposal made it through the initial review process and recently presented the proposal to a group of reviewers.
    d. Strengthening Mobility and Revolutionizing Transportation (SMART) – DSRI participated in a SMART Program Stage 1 proposal led by the University of Iowa (UI) CAMBUS. CAMBUS, the university's public transportation system, serves the UI campus and UI Healthcare. This project aims to expand CAMBUS's on-demand service to a new UI Healthcare facility under construction. The plan includes using DSRI's ADS transit and retrofitting several CAMBUS ADA paratransit buses with automation capabilities to serve the new healthcare facility and the two existing ones.

7. **Upcoming Meetings**

a. **Economic Development & Infrastructure Readiness Joint Subcommittee Meeting** – Friday, September 27, 2024

b. **Policy & Legislation Subcommittee Meeting** – Wednesday, October 2nd, 2024

c. **Iowa Advisory Council on Automated Transportation Meeting** – Tuesday, October 29, 2024, from 10:00 a.m. – 12:00 p.m. In-person meeting to be held at the University of Iowa Driving Safety Research Institute. Virtual option will be available. ADS for Rural America Demonstration Drives available upon request.

ATC SUBCOMMITTEE MEETING

Public Safety & Enforcement
September 25, 2024

MEETING AGENDA

1. **Welcome, Introductions, and Subcommittee Updates** – Col. Nathan Fulk, Public Safety & Enforcement Subcommittee Chair
    a. AAMVA Automate Vehicles Subcommittee update
    b. Driving Safety Research Institute (DSRI) study update
2. **AV Update** – Matt Miller, Iowa DOT
    a. Iowa DOT Automated Transporation webpage update
    b. Iowa DOT meetings with Texas, City of Austin, and Ontario
3. **AV Task Force Roundtable Discussion** – Matt Miller, Iowa DOT
4. **DSRI AV Project Update** – Cheryl Roe, DSRI
5. **Information and key upcoming dates**
    a. Economic Development & Infrastructure Readiness Joint Subcommittee Meeting – Friday, September 27
    b. Policy and Legislation Subcommittee Meeting – Wednesday, October 2
    c. Iowa Advisory Council on Automate Transportation Meeting – Tuesday, October 29 from 10:00 a.m. – 12:00 p.m., hosted at the University of Iowa Driving Safety Research Institute, virtual option available. ADS for Rural America demonstration drives available by request.

WELCOME AND INTRODUCTIONS

Colonel Nathan Fulk–

Public Safety and Enforcement Subcommittee Chair

PUBLIC SAFETY & ENFORCEMENT SUBCOMMITTEE UPDATES

AAMVA AV Subcommittee – Colonel Fulk

University of Iowa Driving Safety Research Institute (DSRI) Study Update – Cheryl Roe, DSRI

IOWA | Driving Safety Research Institute

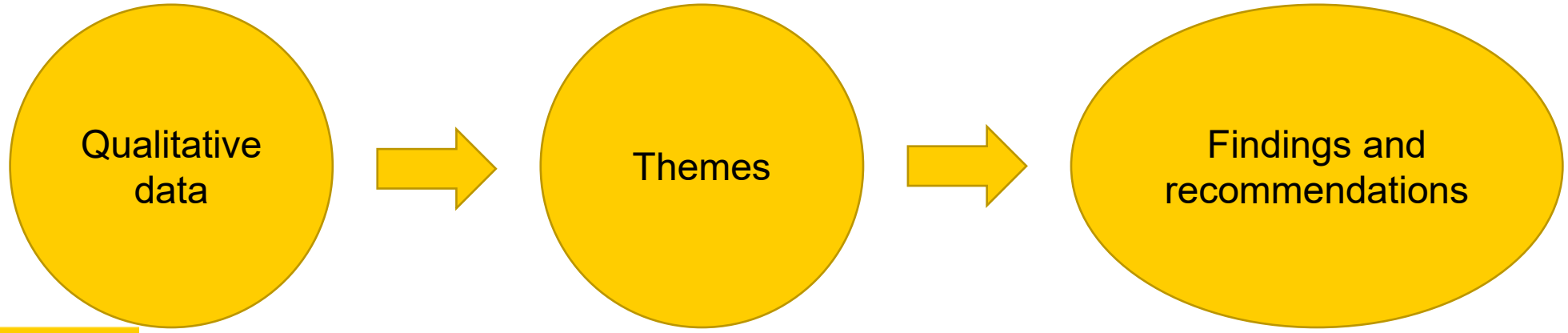
Driving Safety Research Institute

Advanced Driver Assistance Systems in near-crashes, crashes and crash investigations

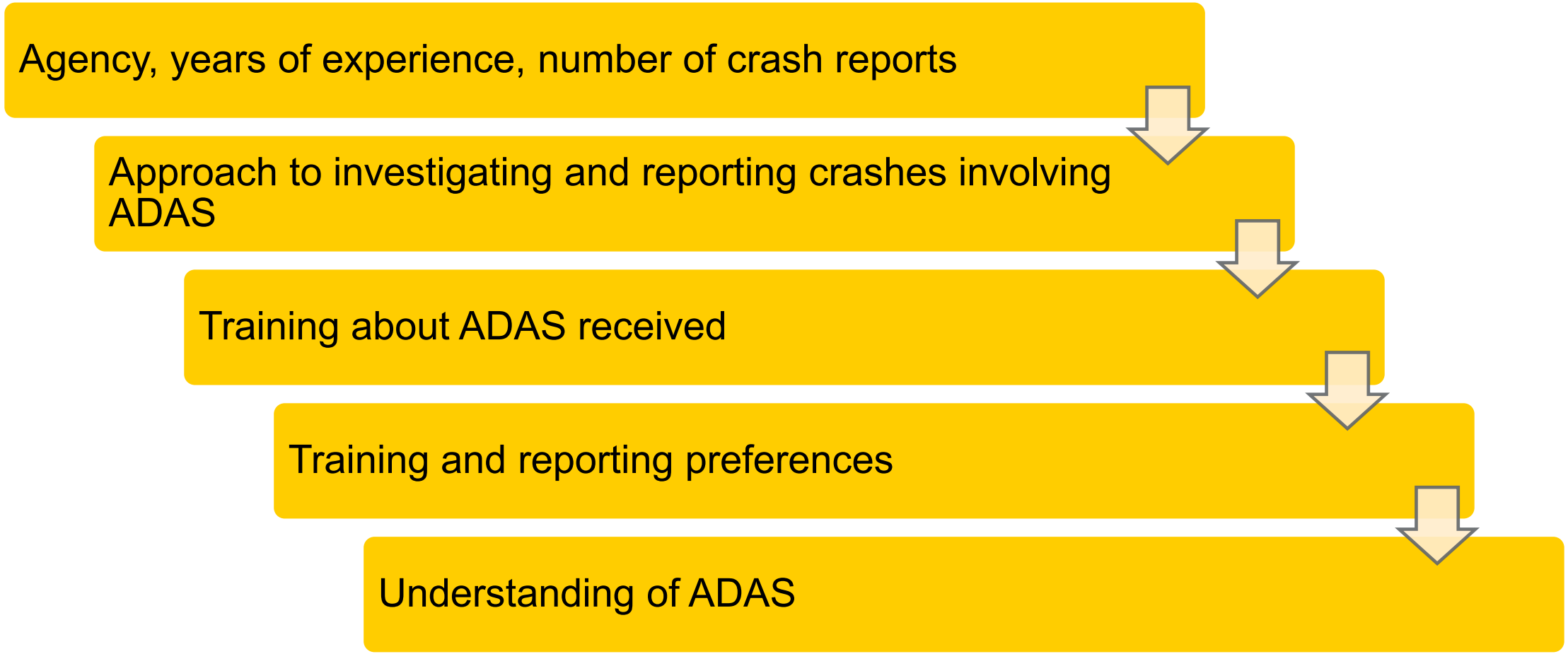
Cheryl Roe

Project overview

- Understand impact of Advanced Driver Assistance Systems (ADAS) on real-world crashes and near-crashes
- Interview & survey motorists involved in incidents with vehicles equipped with ADAS
- Interview & survey officers who investigate crashes

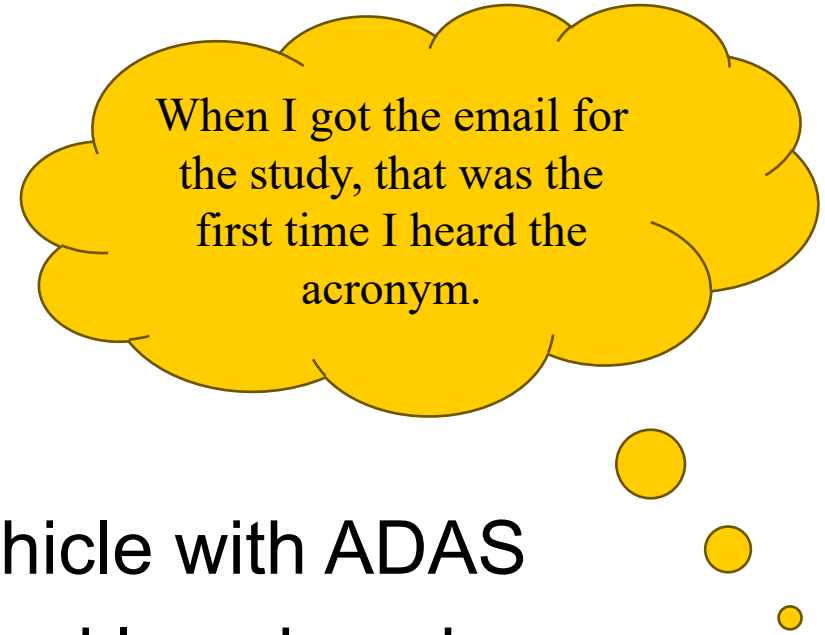


Law enforcement survey and interview topics



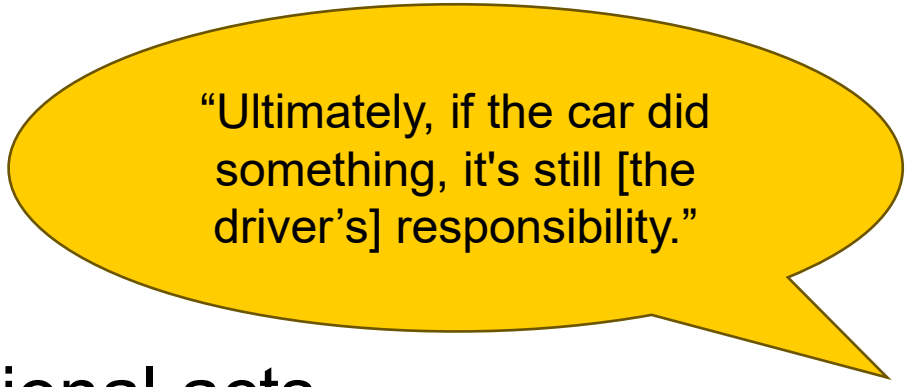
Officer themes that echoed motorists

- Range of ADAS understanding
- Familiarity higher with same systems:
  - BSW, FCW, LDW and ACC
- Locations of sensors and cameras
- Overreliance
- Learning curve with personal or work vehicle with ADAS
- Nuisance alarms, especially with FCW and lane keeping



Barriers to considering ADAS

- Perception they need special equipment or training
- Data downloads from the vehicle
- Resources are limited and use of ADAS doesn’t change the outcome
- ADAS has no impact on crashes involving impairment, high speed, intentional acts
- Have not received training or guidance
- Not on crash report form



ADAS involvement in crashes

- ADAS mitigated severity (8)
  - 7 identified FCW and AEB
- ADAS contributed to crash (5)

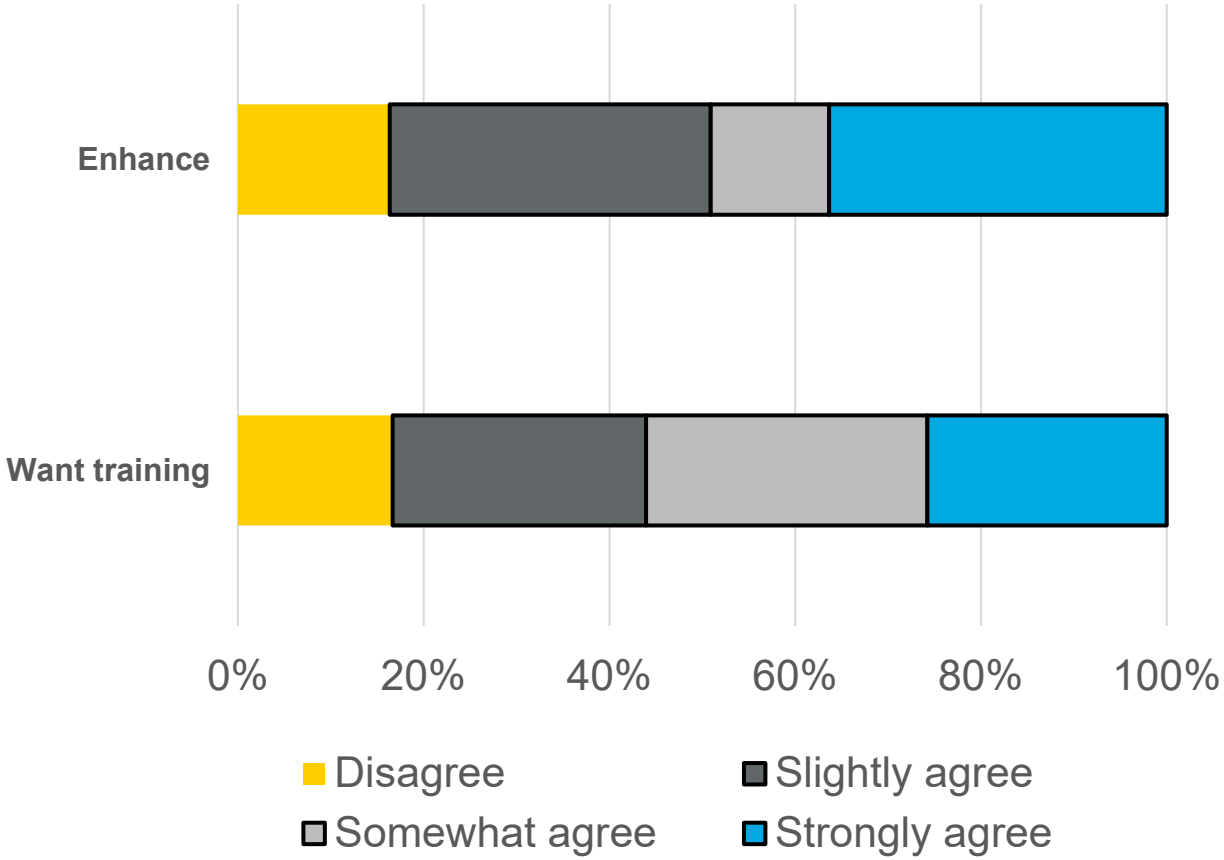
Pre collision braking systems slowed down the vehicle prior to the collision. Driver was not paying attention told me their car gave warning to brake and then started braking prior to collision.

A semi with brake assist had a car in front of him cut him off. The driver stated he didn't need to slow down but the truck did anyway. It caused three vehicles to run into the back of him.

Driver was relying on lane assistance. Approached curve where white line disappeared for an intersection and drove directly off to a curve damaging property and injuring the driver.

Law enforcement

- Provide general training on ADAS
- Provide guidance about what officer can ask drivers
- Which types of systems are related to which crash type??
- Preferred in-person and/or in-vehicle demonstrations
    - Include in yearly in-service
    - Length for virtual: 30 minutes



Different ways to ask drivers about ADAS

Does this vehicle have any features that can brake or steer the vehicle?

Even if a collision occurred, you can still note the driver said the vehicle braked

Is there anything wrong with your vehicle?

Be curious

I noticed the camera up in your windshield. What's that do?

If vehicle has a camera, it can be impacted glare, precipitation, snow. *Was the sun in your eyes?*

Crash reporting

- Crash report fields need to be clear
  - Officers who use the CO form exhibited uncertainly about the automation fields
- Must be fast and easy for officers to find information
- Must involve officers in process to update crash report form

DOTs and IOOs

- Lane markings that work for humans works for technology
  - Wider, higher contrast
  - Space between lane marker and pavement edge
  - Through ramps and intersections
  - Maintenance of markings; clean removal
- Consider providing drivers with general training on ADAS
- Explore options for integrating ADAS info into vehicle registration system

Summary

- ADAS are here and they are prevalent
- Spectrum of understanding when it comes to ADAS
- Evidence ADAS help reduce crashes and crash severity
- Officers would benefit from ADAS training
- ADAS are **not** autonomous driving
- Any changes to the crash report need to be thoughtful and easy to complete
- Identification of ADAS on a vehicle needs to be easier
- Critical to do a better job of educating consumers about ADAS before, during, and after purchase

Questions?

cheryl-roe@uiowa.edu

AV UPDATE

Iowa DOT Automated Transportation Webpage Update

Iowa DOT meeting with Texas DOT

Iowa DOT meeting with City of Austin

Iowa DOT meeting with Ontario

IOWA DOT AUTOMATED TRANSPORTATION UPDATE

https://iowadot.gov/automatedtransportation/Policies-Procedures

AV UPDATE

Iowa DOT Automated Transportation Webpage Update

Iowa DOT meeting with Texas DOT

Iowa DOT meeting with City of Austin

Iowa DOT meeting with Ontario

AV UPDATE

Iowa DOT Automated Transportation Webpage Update

Iowa DOT meeting with Texas DOT

Iowa DOT meeting with City of Austin

Iowa DOT meeting with Ontario

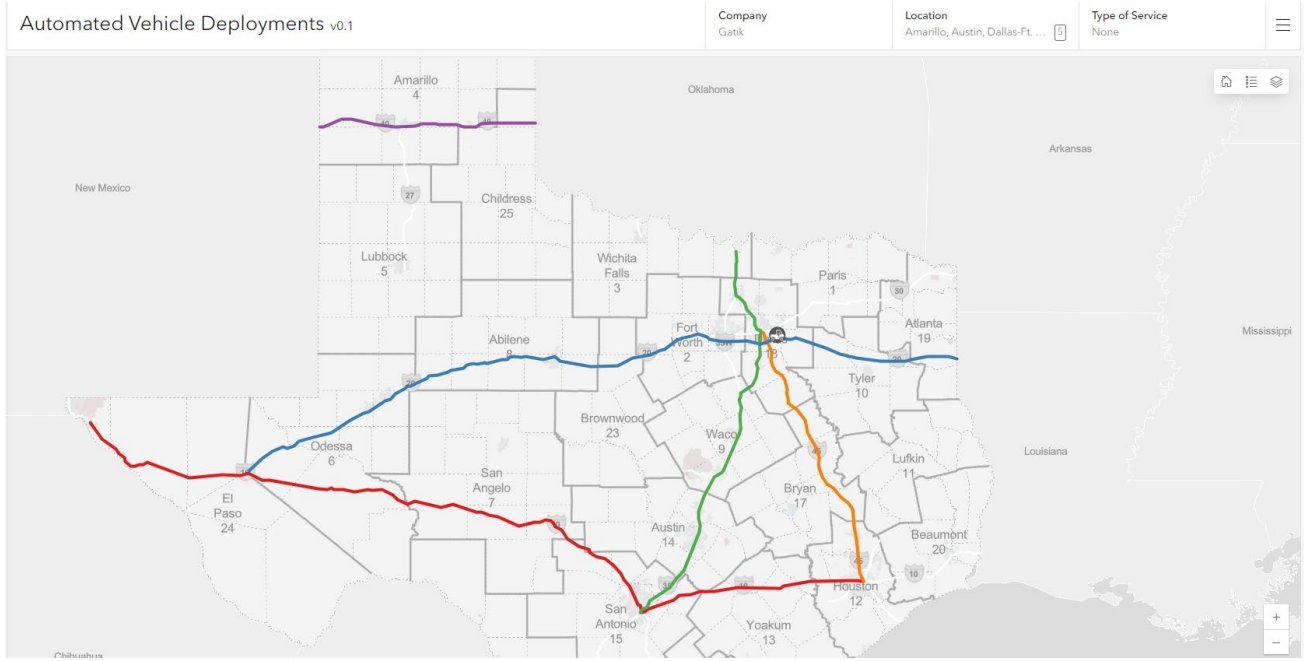
IOWA DOT MEETING WITH TEXAS DOT

- On August 16, AV Task force members: *Zeke Reyna from Texas DOT & Captain Bart Teeter of Texas CAV Task Force - Enforcement*
- AV Task Force https://www.txdot.gov/about/programs/innovative-transportation/connected-automated-vehicles-task-force.html
- Public & Law Enforcement Engagement
  - All stakeholders have a responsibility (task force "open doors")
  - "Welcome packet" that welcomes company, provides considerations, contacts, etc.
  - "Petting zoos" or ride-along
- First responder interaction plan
  - Very few incidents with Freight in Texas
  - Usual response within 15 minutes
  - Austin is working on plan for ride-share
  - Fire departments have most negative experiences
  - Be good partners with your cities – know the AV point of contact
- Some AV companies hire retired first responders to help inform
- Possible law revisions in future.

Mission: The safety, liability, and responsibility subcommittee examines the validity, verification, and assurance of safety concerns related to all modes of CAV.

IOWA DOT MEETING WITH TEXAS DOT

- Texas vs California
- Encourages use of AV map [AV data dashboard]
- All AV companies are different – Get the BIG picture
  - ODD – minimal risk conditions
  - Safety operator plans
  - Routes
  - Timeframe
  - Short & long-term plans
  - Plans to handle weigh stations
- Encourage AV to meet with city and state officials, governor's office, senate, and house
- AVs will want state data exchange (i.e., Work Zone Data Exchange)
- Remember all AV companies are different



AV UPDATE

Iowa DOT Automated Transportation Webpage Update

Gatik Update

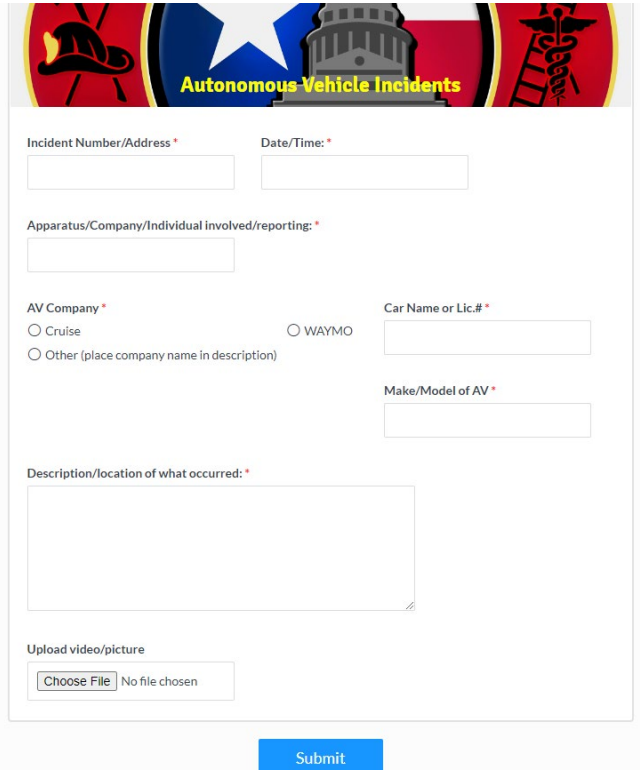
Iowa DOT meeting with Texas DOT

Iowa DOT meeting with City of Austin

Iowa DOT meeting with Ontario

IOWA DOT MEETING WITH CITY OF AUSTIN

- On August 23, met City of Austin: *Rachel Castignoli & Kristin Bray* https://www.austintexas.gov/page/autonomous-vehicles
- Police, fire, EMS, airport working group & a city group each meet monthly
- Larger group (disability groups, universities, school police, schools, Texas DOT, NHTSA, AV Companies, etc.) meet twice a year
- Incident reporting – goes into data dashboard
  - Fire created form that was expanded to include police and EMS
  - Public can report AV incidents using a Public Form
  - AV companies informed immediately about incidents (near misses, annoyances, etc.)
- Police and Fire Considerations
  - Police and fire involvement is key
  - Lots of "petting zoos" - lots of touching of vehicles
  - Communication with AV ("Indicator Beacon")
  - Can AVs talk directly to fire department (V2X)?
  - Rural areas - volunteer fire departments



Public form

IOWA DOT MEETING WITH CITY OF AUSTIN

- Austin has NO regulatory control, but they do offer an “Expectations” document
- AV companies communicate with one email account
- Investing in infrastructure (when, where, how much)
- Important information to know about AV company
  - Plans to add or change vehicles
  - Plans to change ODD
  - When they remove a driver
- Data exchange
  - Working on getting Work Zone Data Exchange set up
  - Share info about big events (hazmat issues, shootings, fires, etc.) impacting roads
  - Hoping to incorporate Mobility Data Specification (Open Mobility Foundation)
- Public perception is generally positive!

AV UPDATE

Iowa DOT Automated Transportation Webpage Update

Iowa DOT meeting with Texas DOT

Iowa DOT meeting with City of Austin

Iowa DOT meeting with Ontario

IOWA DOT MEETING WITH ONTARIO

- August 29th met with Ontario Ministry of Transportation (MTO) representatives – *Lead contact Jerome Brideau*
- Implementation process (10-year pilot program) Ontario Automated Vehicle Pilot Program
  - AV submits application to MTO
  - Application includes testing location(s), times(s) of day, driver(s), vehicle type(s)
  - Safety vs non-safety compliant vehicles
  - Everyone is “testing” even if they generate revenue
- Engagement and Law Enforcement Plan
  - Required to engage with law enforcement and first responders
  - No specific direction on how it needs to be done
  - No complaints yet
- Crashes or incidents?
  - “Manual mode” resulted in a collision - driver injured (December ’21)
  - Force company to pause testing until investigation completed
  - Questions arose after review

IOWA DOT MEETING WITH ONTARIO

- AV Reporting Requirements (Data is **NOT** publicly shared)
  - Report for each vehicle type
  - KM travelled
  - Road types and speed limits
  - Environment: road conditions, time of day
  - Incident reporting: collisions and disengagements (AV-generated and operator-generated)
- Things to consider
  - Level of control is important. When will authority step in?
  - Involvement of municipalities may impact timelines
  - How many vehicles are your comfortable with?
  - Are there places you want companies to operate?
  - What is Iowa's threshold, the AV company's threshold for bad weather?
  - Do you want safety assessment reports?

Shuttle used in West Rouge Automate Shuttle Trial Case Study

SUMMARY

- Interactions with police, fire, EMS, government and public – “petting zoos” and ride-along
- “Welcome” and/or “expectations” document
- Encourage AV web portal (AV locations, incidents)
- Need to know AV company’s plan (ODD, route, safety operator(s), short term and long-term, etc.)
- Know points of contact (AV company, cities, state, fire, police, etc.)
- Websites include examples of guidance documents, information for public, etc.
- Regulatory control is minimal

AV TASK FORCE ROUNDTABLE DISCUSSION

Volunteers are needed

Cross-section representation

Interaction with AV Company

Inform policy

Regular reporting to the Iowa Advisory Council and the Governor's office

DRIVING SAFETY RESEARCH INSTITUTE PROJECT UPDATE

Presented by Cheryl Roe, DSRI

DRIVING SAFETY RESEARCH INSTITUTE

- ADAS for Bustang Intercity and Regional Bus Transit – funded FTA
  - Colorado Department of Transportation
  - Demonstration of three fully equipped public transit service buses with aftermarket ADAS technology.
  - DSRI role: training operators and evaluation materials
- Rural Autonomous Vehicle Research Program – proposal
  - Virginia Tech Transportation Institute, Auburn University, and West Virginia
  - Opportunities for transporting people and/or goods
  - Transportation of people proposal has made it through the initial evaluation process
- Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Program – proposal
  - Project led by University of Iowa CAMBUS
  - ADS shuttle to be used to provide service to new UIHC location in North Liberty
  - Cambus vehicle will be equipped with ADS hardware and software
  - DSRI to train UI Cambus staff for operating ADS vehicle

UPCOMING MEETINGS

Economic Development & Infrastructure Readiness Joint Subcommittee Meeting – Friday, September 27 from 1:30 – 2:30 pm

Policy & Legislation Subcommittee Meeting – Wednesday, October 2 from 11:00 a.m. – 12:00 p.m.

Iowa Advisory Council on Automated Transportation Meeting – Tuesday, October 29 from 10:00 a.m. – 12:00 p.m.

In-person meeting to be held at the University of Iowa Driving Safety Research Institute. Virtual option available. ADS for Rural America demonstration drives available by request.

THANK YOU