MEETING NOTES
**Iowa Advisory Council on Automated Transportation (ATC)**
**Council Meeting**
Tuesday, April 29, 2025
10:00 a.m. - 1:00 p.m. CT

https://iowadrivingav.org/

**Action Items:**

- Review legislation related to automated vehicles for potential gaps
- Review vehicle registration and TraCS forms and discuss necessary changes

**Attendance – 27 attendees**

- Scott Marler – Iowa Department of Transportation (ATC Chair)
- Rich Steiner – Gatik
- Dylan Mullenix – Des Moines Area MPO (Policy & Legislation Chair)
- Colonel Nathan Fulk – Department of Public Safety, Iowa State Patrol (PS & E Chair)
- Stephan Bayens – Department of Public Safety
- Mike Current – Department of Public Safety, Iowa State Patrol
- Robert Denson – Des Moines Area Community College
- Neal Hawkins – Iowa State University, InTrans
- Travis Grassel – Iowa Insurance Division
- Len Murray – City of Pleasant Hill City Council, Des Moines Area MPO
- Catherine Lucas – Department of Public Safety
- Timothy Marshall – Iowa Division of Federal Highway Administration
- Sean Litteral – Iowa Division of Federal Highway Administration
- Matt Burkey – Iowa Bicycle Coalition
- Jamie Sorenson – Winnebago Industries
- Brooke Lovelace – Iowa Developmental Disabilities Council
- Eric Porter – Iowa Communications Network
- Uthej Vattipalli – SRF Consulting
- Brian Mulcahy – Des Moines International Airport
- Omar Ahmad, Cherie Roe – University of Iowa, Driving Safety Research Institute (DSRI)
- Deborah Freeman, Ashley Hochberger, Peggi Knight, Matt Miller, Jim Schnoebelen, Daniel Yeh, – Iowa DOT

1. **Welcome and introductions** – *Scott Marler, Iowa DOT Director, Chair of the ATC*
    A. Scott opened with a warm welcome to both in-person and virtual attendees, with special thanks extended to President Rod Denson, the DMACC team, the Culinary Institute, and Rich Steiner from Gatik. Scott emphasized the ongoing importance of automated transportation, highlighting its potential to significantly improve safety and reduce traffic fatalities in Iowa. Although progress is being made, with current fatality numbers slightly better than past averages, the goal is to achieve much greater improvements.

B. A key milestone mentioned was the recent signing of Iowa's new "hands-free driving" law on April 2nd, which prohibits handling electronic devices while driving. This legislation is seen as a step forward in enhancing road safety and aligns with the broader goals of advancing automated transportation.

2. **Autonomous Vehicle (AV) Interactions –** *Matt Miller, Director of New and Emerging Transportation Technologies, Iowa Department of Transportation*
   A. Matt Miller informed the group of the council member changes and reviewed the agenda for the day. Deborah Freeman, compliance officer with the Motor Vehicle Division, has replaced Toni Smith on the ATC council.
   B. AV Deployment Working Group: Matt informed the council about the AV Deployment Working Group that was established in November 2024. The group will support and oversee AV deployment efforts. The group includes leadership from the Des Moines Metro Planning Organization, Iowa State Patrol, University of Iowa, Iowa Economic Development Authority, Iowa DOT Motor Vehicle Department, Iowa DOT Outreach and Development, and members of an AV company.
      i. The working group held two meetings, sharing information while the AV company maintained discretion over proprietary details. Meetings will continue after the ATC meeting in April. During the meetings, the AV company responded to questions related to their safety case, their deployment process, and their first responder interaction plans. The group discussed the need for clear communication plans that can be shared with stakeholders to ensure a unified message. The Iowa DOT facilitated first responder and city manager AV first responder education sessions in collaboration with Iowa State Patrol, Warren, Polk, and Dallas County Sheriff's Offices, scheduled for April 22-24. Additional invitees include Iowa DOT traffic operations, traffic management center leadership, highway helper personnel, District 1 engineer office leadership, highway maintenance supervisors, and DSRI.
   C. AV First Responder Sessions: In April 2025, Gatik hosted a series of educational sessions for first responders across three Iowa counties. Each county held two sessions in a single day: Warren County on April 22, Dallas County on April 23, and Polk County on April 24. A total of 70 participants attended, representing a wide range of agencies—including state, county, and city departments, as well as municipal police and fire services. The sessions were designed to strengthen interagency coordination, enhance emergency response capabilities, and provide updated training on relevant protocols and procedures.
      i. These sessions included a classroom component that introduced the company's approach to automated driving, provided guidelines for interacting with their AVs, and featured a Q&A session. A vehicle was available on-site, allowing first responders to inspect it and ask additional questions.
      ii. First responders were informed about how to interact with the vehicle in various scenarios: when a driver is present, when the vehicle is operating in freight-only mode with a lead or chase vehicle, and when it is under remote

supervision. The sessions covered important procedures such as locating vehicle documentation, safely disengaging the automated system, and understanding how the vehicle responds in the event of a crash. In emergency situations, responders can contact a remote supervisor by calling a posted number and providing the vehicle's license plate and location. The supervisor can then respond as a human driver would.

iii. The company actively seeks feedback from first responders to improve safety protocols and vehicle design. Past feedback has already led to meaningful changes, for example, the development of an external indicator light to show when it's safe to approach the vehicle. Additionally, the company is working on an external intercom system to allow direct communication between first responders and the remote supervisor, enhancing coordination and situational awareness during incidents.

iv. Participants frequently inquired about the truck's behavior in various real-world scenarios including:
    a. Adverse weather conditions
    b. Narrow road shoulders
    c. Lane closures and utility work zones
    d. Compliance with move-over laws
    e. Recognition of volunteer responder lights

v. Additional questions focused on operational and logistical aspects, such as:
    a. Types of cargo the trucks will transport
    b. Theft prevention and security measures
    c. Situations in which a human driver may be present
    d. Access to vehicle video data for incident review
    e. The role, responsibilities, and availability of the remote supervisor

vi. The truck's automation software is designed to be able to respond in the scenarios identified by first responders. Regarding weather conditions, the trucks will operate autonomously only when conditions fall within the parameters defined by the vehicle's Operational Design Domain (ODD). If weather conditions fall outside of these parameters—such as during heavy rain, snow, or fog—the company may choose to either operate the vehicle manually or suspend operations entirely to ensure safety.

vii. The trucks are equipped with GPS tracking, as well as interior cameras in both the cab and trailer. In the event of tampering or theft, these systems provide real-time location data and recorded video footage, which can assist law enforcement in locating and recovering the vehicle.

viii. Each truck is monitored by a dedicated remote supervisor who is available 24/7 via phone to first responders. Supervisors currently oversee one vehicle at a time and have access to a 360-degree live video feed around the truck, along with two-way communication capabilities. When needed, the supervisor can issue high-level commands to assist the vehicle in responding to unexpected situations. For example, they can instruct the truck to change lanes in response

to a road closure, navigate around obstacles such as fallen trees, or follow directions given by personnel on the scene.

ix. These sessions highlighted several issues that may require further attention:
    a. Event Data Recorder (EDR) Access: There is a need to assess whether Iowa currently has the necessary hardware and software to retrieve data from event data recorders in automated vehicles.
    b. Vehicle Registration and Automation Level: The sessions revealed that there may be a need to identify a vehicle's SAE automation level during the registration process. In response, the Iowa DOT has begun testing this capability by submitting a truck's VIN to the Motor Vehicle Division (MVD) system to ensure it can accommodate this information.
    c. Law Enforcement Procedures: Participants raised concerns about how officers should handle citations and crash reports that require identifying a "driver" when no human driver is present. This underscores the need to update forms and procedures to reflect the realities of AV operation.

x. During the ATC Council meeting, members continued discussions on key legal and procedural challenges related to AV operations in Iowa. The following issues and potential actions were identified:
    a. Legislative Gaps: The group emphasized the need to review Iowa's laws to identify gaps in regulating and enforcing rules for AVs, particularly those operating without a human driver.
    b. Authority to Issue Citations: Questions were raised about whether Iowa law permits issuing citations to driverless vehicles. One proposed solution was to impose penalties on the operating company, such as temporary suspension of operating privileges for repeated infractions.
    c. Defining the "Driver": Some states have addressed this by designating the AV company as the "operator" and listing it in the vehicle registration. Iowa may consider similar changes, including modifying registration fields.
    d. SAE Level Classification: The group discussed whether a vehicle's SAE automation level should remain fixed or vary depending on whether a human is actively driving, supervising, or disengaging autonomous mode during an incident.
    e. Crash Reporting Enhancements: Lt. Current suggested a more comprehensive approach to crash reporting that includes AV capabilities for all vehicles, including those with SAE levels 0–3.
    f. ADAS Awareness and Reporting: Cheryl Roe shared findings from a DSRI study showing that both drivers and officers often lack awareness of Advanced Driver Assistance Systems (ADAS) features. Officers typically don't document ADAS involvement due to limitations in crash report forms, lack of training, or insufficient access to vehicle data. The study recommends updating crash forms, providing officer training, and

capturing ADAS information during vehicle registration to support investigations. It also emphasized that SAE level alone does not determine whether automation contributed to or mitigated a crash.

B. NCHRP 20-24(147) Peer Exchange
    i. The discussion centered on how different states are preparing for connected and AVs, with a strong focus on connected vehicle technologies and procurement strategies. Key topics included:
        a. Data Exchange and Utilization: States like Arkansas and Florida shared innovative use cases. For example, Florida has integrated law enforcement vehicles into a system that maps their locations when emergency lights are activated. They also identified a cost-effective approach for SAE push message certification.
        b. Procurement Processes: Participants discussed various methods for acquiring new technologies, the complexity of navigating available options, and strategies for mitigating associated risks.
        c. Technology Applications: The conversation also touched on tools like Drivewyze, which offers electronic logging and in-cabin alerts, and the eligibility of different purchasing methods for such technologies.
    ii. Information about the project and peer exchange meeting materials (pre-meeting reading packet and presentation slides can be downloaded from the webpage NCHRP 20-24 (147) Identify Best Practices for Automated Driving Systems and Other Emerging Technologies.

C. Austin AV Stakeholder Meeting
    i. Matt attended the Austin AV Stakeholder Meeting, which brought together a wide range of participants, including city officials, AV companies, public transit and mobility agencies, law enforcement, fire and EMS, special events coordinators, and community advocacy groups.
    ii. Legal & Policy Alignment: The discussions underscored the importance of understanding the legal framework surrounding AVs, particularly the need for alignment between state and local policies. Texas has fostered a supportive environment for AV deployment, with Austin taking the lead in managing local impacts. Iowa attendees noted this dynamic as a potential model for developing similar legislation. Overall, the meeting highlighted the value of collaboration, transparency, and innovation in shaping effective AV policy. Austin's established protocols and procedures offer useful insights for other regions exploring AV integration.
    iii. Emergency Geofencing & Event Management: Austin uses geofencing to enhance safety during emergency situations by establishing a 1,000-foot exclusion zone for one hour following a 911 call and emergency response dispatch. While this system is effective within a single jurisdiction, it becomes more complex when coordination is required across multiple cities, states, or

agencies. In addition, Austin employs crowd control strategies during large events—such as concerts—to manage traffic flow and restrict access to certain areas, ensuring public safety and smoother operations.

iv. AV Violation Handling: Austin is among the first cities in the U.S. to establish a formal process for addressing traffic violations involving AVs. When a violation is observed, law enforcement officers gather evidence using tools such as dashcam footage, radar readings, and witness statements. Rather than pulling the vehicle over, the officer identifies the AV and files a complaint, which is then submitted directly to the operating company. This streamlined approach allows citations to be issued and resolved without interrupting traffic flow. In addition, Austin has implemented a public feedback system that enables residents to report AV-related incidents—such as a vehicle stopping unexpectedly at an intersection. These reports are reviewed and addressed by the appropriate authorities, contributing to ongoing oversight and system improvement.

v. Public Transit Integration: The integration of AVs with public transit in Austin aims to create a holistic, multimodal transport network that enhances the transit system's reach, reduces emissions, and improves safety.

vi. Infrastructure and Data Tools: Investment in digital infrastructure and real-time data supports AV operations and planning. Open data and proactive infrastructure management were highlighted as critical.

vii. Public Engagement: Austin prioritizes community involvement through open houses, outreach to underserved communities, and educational initiatives assuring AV deployment is collaborative and inclusive.

viii. Interactive Mapping Activity: Stakeholders used large maps of Austin to identify sensitive areas, infrastructure challenges, and service opportunities. This hands-on exercise helped crowdsource local knowledge to inform AV planning.

**3. Subcommittee Updates**

A. Policy and Legislation – Dylan Mullenix

i. Last meeting: March 13, 2025

ii. No new subcommittee members.

iii. During the meeting, Matt provided updates from the AV working group and shared information about the Iowa DOT automated vehicle page, including links on AV collision data. Three main topics were discussed: National Highway Traffic Safety Administration's (NHTSA) proposed ADS-equipped Vehicle Safety, Transparency, and Evaluation Program (AV STEP) program to enhance transparency and responsible development of automated driving systems, Iowa Senate Bill 532 requiring repair shops to notify insured persons about ADAS calibration needs after windshield repairs, and the IIHS's updated list of states with AV laws, which is no longer active.

iv. Scott Marler raised the issue of existing policy gaps related to AV implementation and questioned which ATC subcommittee should take the lead in addressing them. The group reached a consensus that this should be a

collaborative effort between the Policy & Legislation and Public Safety & Enforcement subcommittees.

B. Public Safety & Enforcement – Colonel Nathan Fulk
    i. Last meeting: March 28, 2025
    ii. No new subcommittee members.
    iii. During the meeting, Matt provided updates from the AV Deployment working group, the Iowa DOT webpage, and his recent interactions in Texas. Col. Fulk highlighted his experiences with Gatik and plans for first responder education sessions. Cheryl Roe discussed topics from the Lifesavers conference, including the "AVSC Best Practice for First Responder Interactions with Fleet-Managed Driving System-Dedicated Vehicles," California's AV collision report page, non-compliance issues, and training requirements for Level 3 vehicle purchasers. She also mentioned Austin FD's AV Safaris for first responders and the importance of their feedback for AV improvements.
    iv. Col. Fulk emphasized the value of learning from groups like American Association of Moter Vehicle Administrators (AAMVA) AV Subcommittee and other out-of-state partners to address legislative gaps related to automated transportation. Lt. Mike Current of the Iowa State Patrol currently represents Iowa on the AAMVA AV Subcommittee.

C. Economic Development and Infrastructure Readiness – Cheryl Roe
    i. Rick Peterson, the chair of the Economic Development Subcommittee, was unable to attend the meeting so Cheryl Roe provided a quick update.
    ii. The subcommittee has been unable to meet in 2025 so the last meeting was held on September 27, 2024. Since that time, there haven't been any new subcommittee members. Cheryl plans to work with Rick to find a date for a subcommittee meeting.

**4. Gatik: Autonomous Transportation Network for the Middle Mile –** *Rich Steiner, Vice President Government Relations and Public Affairs*

A. Rich Steiner, Vice President of Government Relations and Public Affairs at Gatik, joins us today to provide an update on the company's future deployment plans. Rich has spent over a decade working at the intersection of technology and public policy. The ATC previously heard from him during meetings in May 2023 and April 2024.
B. Company Background: Founded in 2017, Gatik is a market leader in autonomous middle-mile logistics. The company's clients include major brands such as Walmart, Kroger, Tyson Foods, Pitney Bowes, and Georgia-Pacific. Gatik currently operates in California, Texas, Arkansas, and Ontario, Canada, with further expansion planned for this year. Their fleet primarily consists of Class 6 and 7 trucks.
C. Operational Focus: Gatik specializes in the "middle mile", which is the short-haul segment of the supply chain that moves goods from local distribution centers to retail stores, depots, and pickup hubs. This segment has become increasingly critical due to

rising demand for faster delivery times, which requires more frequent and efficient short-distance transport. While short-haul routes can extend up to 400 miles, Gatik's operations typically range from single-digit distances up to 40–75 miles, which they identify as their operational "sweet spot." Their autonomous driving software is fully integrated into Isuzu's vehicle platform, and by 2027, a dedicated Isuzu facility will begin manufacturing Gatik trucks.

D. Route Planning and Safety Optimization: Gatik enhances safety by operating on fixed, predictable, and repeatable routes. These routes are carefully selected to avoid sensitive areas such as schools, hospitals, fire stations, and zones with high pedestrian activity. To ensure operational resilience, each route includes multiple pre-programmed alternatives to accommodate unexpected events like road closures or traffic incidents.
    i. An essential part of the route-mapping process involves proactive communication with city and state officials. This collaboration helps Gatik stay informed about planned road work, challenging intersections, and recommended detours allowing safer and more efficient route planning.
E. Transitions to Driverless Freight Operations: Gatik follows a structured, multi-phase approach to transitioning from manual operations to fully autonomous freight operations. Each phase is designed to ensure safety, reliability, and seamless integration into real-world environments:
    i. Initial Mapping and Data Collection: Vehicles are manually driven by a trained safety driver with an engineer onboard. This phase focuses on collecting route data and refining the vehicle's mapping and perception systems.
    ii. Autonomous Driving with Onboard Operator: The vehicle begins operating in autonomous mode while a safety operator remains behind the wheel, ready to intervene if necessary. This phase allows for real-world validation of autonomous performance.
    iii. Driverless Freight Operations with Escort Vehicles: Once the system demonstrates consistent reliability, the vehicle operates without a driver but is accompanied by a lead or following vehicle to monitor performance and provide support if needed.
    iv. Fully Driverless Freight Operations with Remote Supervision: In the final phase, the vehicle operates independently, handling all driving tasks within its defined environment. A remote supervisor monitors operations and can provide commands if necessary, providing an additional layer of safety and oversight.
    v. When a new route is added to an existing AV network, it must go through the same rigorous mapping and validation process as any original route. If the new route overlaps with previously mapped areas (a shared road), the process to deployment may be shortened.
F. Gatik's vehicles are equipped with a comprehensive suite of sensors, including multiple cameras, LiDAR, and radar which are strategically positioned to provide full 360-degree perception around the truck. This sensor redundancy enhances the reliability and effectiveness of the autonomous driving system. If any sensor becomes obstructed or

compromised in a way that affects the vehicle's ability to maintain a complete and safe perception of its surroundings, the system may initiate a Minimal Risk Condition (MRC) which could mean coming to a stop on the side of the road to await further instructions. Depending on the situation, a local Onsite Assistance Team (OAT) may be dispatched to manually operate the vehicle or resolve the issue.

G. Remote supervision
    i. Initially, each vehicle is monitored by a dedicated remote supervisor on a 1:1 basis. This is important during early deployment phases or in new operational zones. Over time, as systems mature and reliability increases, this ratio may scale up in a gradual, controlled manner.
    ii. Remote supervisors maintain constant two-way communication with the vehicle and can provide high-level commands when needed, such as rerouting in response to lane closures or other unexpected conditions. They do not operate the vehicle remotely.
    iii. In the event of an incident, the first responders can connect directly to the assigned remote supervisor. This ensures clear, immediate communication with someone who is fully informed about the vehicle's operation and status. Supervisors are equipped to respond to support requests and coordinate with first responders, ensuring a seamless and safe response to dynamic situations on the road.
H. Education and training for first responders can be conducted regularly. There have been ongoing discussions about developing dedicated videos to support these efforts.

## *5.* Discussion

A. Weather – Gatik has gained valuable experience operating in winter conditions through its deployments in Ontario, Canada. The autonomous system can handle heavy rain and moderate snowfall as long as its sensors remain unobstructed. However, in extreme weather events such as major snowstorms that would also challenge human drivers, Gatik vehicles may suspend autonomous operations.
    i. Gatik makes real-time operational decisions throughout the day to ensure safety, adjusting its approach based on current conditions. This may include switching to manual operation or suspending service entirely during adverse situations. These decisions are supported by data-driven intelligence: Gatik collaborates with state authorities and integrates real-time data feeds such as weather updates, traffic signals, and road closures into its decision-making process. The company operates within a defined set of parameters known as the Operational Design Domain (ODD), which outlines the conditions under which autonomous driving is considered safe. These parameters have been refined over the past eight years and continue to evolve with technological advancements. Any updates to the ODD are communicated to relevant state agencies to maintain transparency and coordination.
B. Operational practices

i. Gatik vehicles operate to bridge gaps for their customers. They typically operate up to 14 hours a day with a focus on minimizing traffic conflicts and maximizing delivery efficiency. Initial freight-only testing often occurs overnight to reduce interaction with road users and ensure smoother operations.
ii. Gatik vehicles may travel at slower speeds when traffic patterns require that, however the vehicles will not travel above posted speed limits to keep up with traffic.
iii. Gatik's trucks can make autonomous deliveries to certain drop-off locations, especially where the setup is simple. At more complex sites, a human may step in to handle the final few meters of the delivery, such as backing into a bay. Gatik works with customers to decide who handles this last step, depending on the site's layout.

C. AV software – (A question was asked about whether the vehicles are capable of learning poor behavior from safety drivers during the initial mapping phase)
i. Gatik's safety drivers receive thorough training based on SAE standards, focusing on defensive driving. This ensures safe operation even when the vehicle is in manual mode.
ii. Drivers play a critical role in early operations, not only ensuring safety but also contributing valuable data to the system. The main strength of Gatik's system is its autonomous technology, which is trained using simulations and machine learning. One advantage of the automated system is its predictable and repeatable behavior. For example, at a four-way stop, the vehicle will consistently follow traffic rules without error—unlike human drivers, who may occasionally make mistakes.

D. Connectivity
i. Gatik trucks rely on continuous connectivity to support safe and efficient operations. To ensure reliability, the system is designed to operate across multiple cellular networks simultaneously. This multi-network approach provides built-in redundancy—if one network experiences an outage, others can seamlessly maintain the connection.
ii. In the highly unlikely event that all network connections, the vehicle is programmed to enter a MRC. In this state, the vehicle will safely come to a stop and await further instructions, ensuring safety even in extreme circumstances.
iii. From a remote supervision perspective, this robust connectivity framework ensures that supervisors maintain consistent communication with the vehicle, enabling real-time monitoring and intervention when necessary.

E. Interactions with Vulnerable Road Users
i. The vehicles can reliably detect vulnerable road users (VRUs) like cyclists and pedestrians, even when they are in areas that would typically be blind spots for human drivers. The vehicles can recognize cyclists' hand signals and respond appropriately, even if the gestures are subtle, however bigger hand signals are better. When a VRU enters the vehicle's vicinity, the system switches to a

defensive driving mode—slowing down and exercising extra caution to ensure safety.

F. Videos or Demonstrations
    i. Gatik will explore the possibility of sharing demonstration videos; however, data sharing may be limited due to customer confidentiality agreements.
    ii. They are open to organizing live demonstrations to showcase how the vehicle responds in real-world scenarios such as interactions with bicycles, hand signals, and various first responder lights. These events reflect their ongoing commitment to building trust and promoting transparency.

G. Public engagement
    i. Gatik has previously held public outreach events such as town halls and plans to continue doing so. These events are meant to explain things clearly and avoid surprises as the company moves toward full self-driving operations.

**6. Lunch & ADAS Experiences Presentation –** *Cheryl Roe, AV Transportation & Outreach Specialist*

A. Cheryl Roe the AV Transportation & Outreach Specialist at the Driving Safety Research Institute, University of Iowa, was one of the drivers for the ADS for Rural America project and has driven many different vehicles with varying levels of ADAS. Cheryl recently performed multiple drives with DSRI's 2017 Tesla Model S equipped with the "supervised full self-driving technology" (FSD). The vehicle was driven on the ADS for Rural America route, as well as on roads in Johnson County and the Des Moines Metro area. Cheryl observed and summarized behaviors that were like those of the ADS for Rural America vehicles, along with other notable actions. Video clips were shared to illustrate these key observations.

B. Driving Behaviors & Observations
    i. Cheryl observed the FSD and noted several behaviors that resembled the early programming of the ADS vehicle. The vehicle accelerated quickly to match posted speed limits. On the gravel road, it attempted to reach 55 mph and veered too far to the right into loose gravel. On an unmarked road, the vehicle's speed felt too fast for Cheryl, especially around curves and over blind hills. It was unable to complete two uncontrolled left turns onto high-speed highways. In city square, the vehicle exhibited jerky steering and disengaged FSD, possibly due to large vehicles partially blocking its path. When making a left turn, it turned into the outer lane instead of the correct one. Cheryl noticed that the vehicle misidentified a horse and buggy as a pedestrian and two bicyclists.
    ii. The vehicle's performance at traffic lights was inconsistent. It responded well when following another vehicle. Occasionally it hesitated at green lights, sometimes braking slightly as if anticipating a change. It seemed to rely on a direct line of sight to detect traffic signals, which led to delayed or incorrect responses—particularly noticeable at the diverging diamond interchange. On the positive side, it handled flashing yellow lights more effectively than the ADS vehicle and was able to make right turns on red in some cases. However, these

right-turn-on-red maneuvers raised concerns for Cheryl about how the system detects cross traffic and the range of its sensors.

iii. The vehicle's lane change behavior was inconsistent. Sometimes it stayed in the passing lane too long, while other times it switched back too quickly. It also attempted lane changes too close to or within intersections.

iv. In construction zones, the system was able to follow cones and change lanes in some areas, but in others, it reacted too late, only adjusting when it was already on top of the cones.

v. Additionally, merging behavior was unreliable at times, showing a lack of consistency in handling these situations.

C. System Observations

i. The system's performance varied under different environmental conditions. During rain, it issued degradation warnings and limited speed engagement, which Cheryl found helpful. She questioned whether shadows, broken pavement or irregular markings may have triggered unnecessary braking or alerts.

ii. The system seemed to issue "hands on wheel" warnings, even when the driver's hands were correctly positioned. She wondered if these alerts might have resulted from the system encountering complex or rapidly changing environments.

iii. The vehicle offers three driving modes: Chill, Average, and Aggressive, but only the Average mode was tested during this evaluation.

D. Cheryl noted that, compared to her experience with the ADS vehicle, Tesla's system offered less real-time insight into what it was sensing and how it was making decisions. She particularly missed seeing key information like the status of traffic lights sooner, which she had grown used to during the ADS for Rural America project. Cheryl believes that increasing transparency into the system's perception and decision-making would improve user understanding and build trust.

E. Cheryl's experience with the FSD system revealed both its convenience and limitations. While it reduced her physical demands of driving, she felt it increased her mental workload due to the need for constant attention and readiness to take control. The system performed well in detecting lane lines, shoulders, and mile markers, but struggled in areas with faded markings or construction. Initially skeptical, Cheryl was impressed by how the system handled complex situations like gravel roads and construction zones. She recalled one moment where the vehicle showed "human-like" behavior by smoothly stopping to let a car exit a driveway—an action that felt intuitive. Despite these strengths, she warned against becoming too reliant on the system, as its smooth performance in some conditions could create a false sense of security. She stressed the importance of drivers to always stay engaged and alert.

**7. Wrap-up & AV Truck Viewing**

A. Matt adjourned the meeting and the in-person attendees went outside to view the Gatik truck.

# IOWA ADVISORY COUNCIL ON AUTOMATED TRANSPORTATION

Council Meeting

*April 29, 2025*

# HOUSEKEEPING ITEMS

- Please mute your audio!
- If available, encourage the use of video when speaking
- Please use the chat box and raise hand features to ask questions or make a comment


- Recorded Meeting
- Disable Virtual Private Network (VPN) connections

# WELCOME

Scott Marler, Director-
Iowa DOT

# WELCOME

## Council Members

- Iowa Department of Transportation
- Iowa Department of Public Safety
- Iowa Economic Development Authority
- Iowa League of Cities
- Des Moines Area MPO
- Des Moines International Airport
- Iowa Department of Public Safety
- Iowa Motor Truck Association
- Des Moines Area Community College
- Technology Association of Iowa
- Iowa Association of Business and Industry
- Associated General Contractors of Iowa
- Iowa Communications Network
- Iowa Department of Revenue
- Iowa Public Transit Association
- Iowa Bicycle Coalition
- Freight Advisory Council
- Iowa Insurance Division
- Iowa State Association of Counties
- Iowa Department of Agriculture & Land Stewardship
- Iowa Department of Natural Resources
- Driving Safety Research Institute, University of Iowa
- Institute for Transportation, Iowa State University
- American Association of Motor Vehicle Administrators
- Federal Highway Administration, Iowa Division
- Federal Motor Carrier Safety Administration
- National Highway Traffic Safety Administration
- Iowa Senate
- Iowa House of Representatives
- Highly Automated Systems Safety Center of Excellence, USDOT
- Iowa Workforce Development


# MEETING AGENDA

1. **Welcome** – Scott Marler, Director, Iowa DOT
2. **Autonomous Vehicle Interactions** – Matt Miller, Director of New and Emerging Transportation Technologies, Iowa Department of Transportation
    a. Autonomous Vehicle Emergency Response Deployment Education Sessions
    b. Engagement activities
3. **2025 Subcommittee Meeting Updates** – Subcommittee Chairs
    a. Policy & Legislation – Dylan Mullenix
    b. Public Safety & Enforcement – Colonel Nathan Fulk
    c. Economic Development & Infrastructure Readiness – Rick Peterson
4. **Gatik: Autonomous Transportation Network for the Middle Mile** – Rich Steiner, Vice President Government Relations and Public Affairs, Gatik
5. **Q & A with Gatik**
6. **Lunch & ADAS Experiences Presentation** – Cheryl Roe, Driving Safety Research Institute, University of Iowa
7. **Wrap-up** – Matt Miller, Director of New and Emerging Transportation Technologies, Iowa Department of Transportation
8. **AV Truck Viewing (outside)**
9. **Adjourn**


# AUTONOMOUS VEHICLE INTERACTIONS

Matt Miller, Director of New and Emerging Transportation Technologies, Iowa Department of Transportation

# AV DEPLOYMENT WORKING GROUP UPDATE


**Topics: timeline, ODD, education sessions, communication plan**

**Meetings: 11/14/24 and 1/17/25**

# AV EMERGENCY RESPONSE DEPLOYMENT EDUCATION SESSIONS

Summary

- April 22-24, 2 sessions per day
- Warren, Dallas & Polk County Sheriff's offices
- Attendance: 70
- Law enforcement, fire, emergency dispatch, DOT, DSRI
- Overview and Autonomous Vehicle Training Technology Walkthrough – Q & A

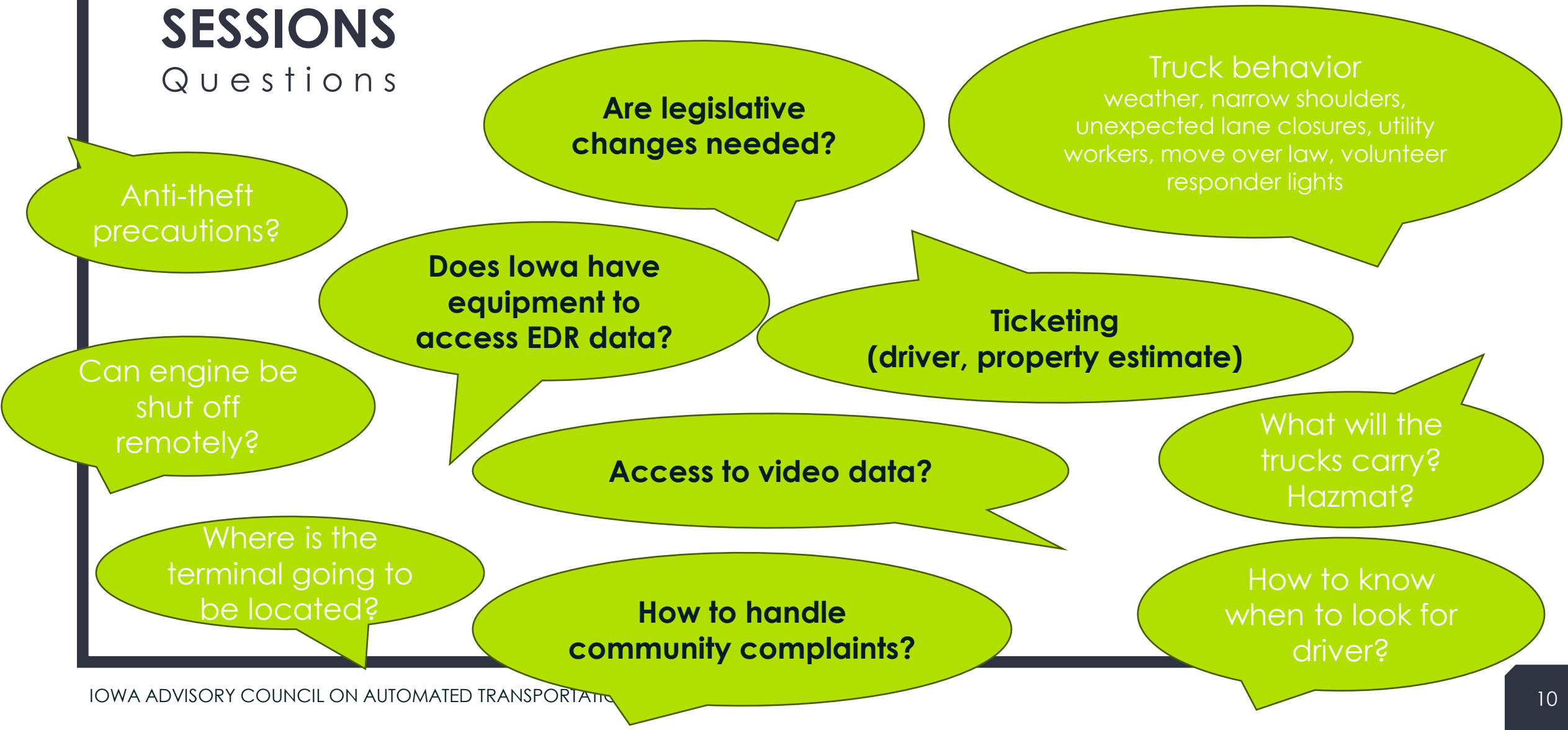
# AV EMERGENCY RESPONSE DEPLOYMENT EDUCATION SESSIONS

## Interacting with the Gatik AV

- 24/7 Gatik 1st Responder Information Line
  - Provide plate number & location
- Vehicle indicator informing status to approach
- Location of registration & insurance
- Methods for disengaging ADS
- AV behavior when in crash
  - Vehicle will stop – hazard lights activated – remote supervisor will contact 911 - Onsite Assistance Team (OAT) dispatched to scene


# AV EMERGENCY RESPONSE DEPLOYMENT EDUCATION SESSIONS

Questions



# AV EMERGENCY RESPONSE DEPLOYMENT EDUCATION SESSIONS

## Iowa DOT is working on

- Iowa DOT has one of the VIN numbers for the vehicles to test in the MVD system for registration identifying SAE Autonomous levels and ensure our systems are ready for this change. **761—380.4(321) Registration of driverless-capable vehicles.**
- We are in contact with both the TRaCS and MVD team for proper protocol on driver identification fields when operating fully autonomous and any needed system changes. **Iowa Code 321.517**

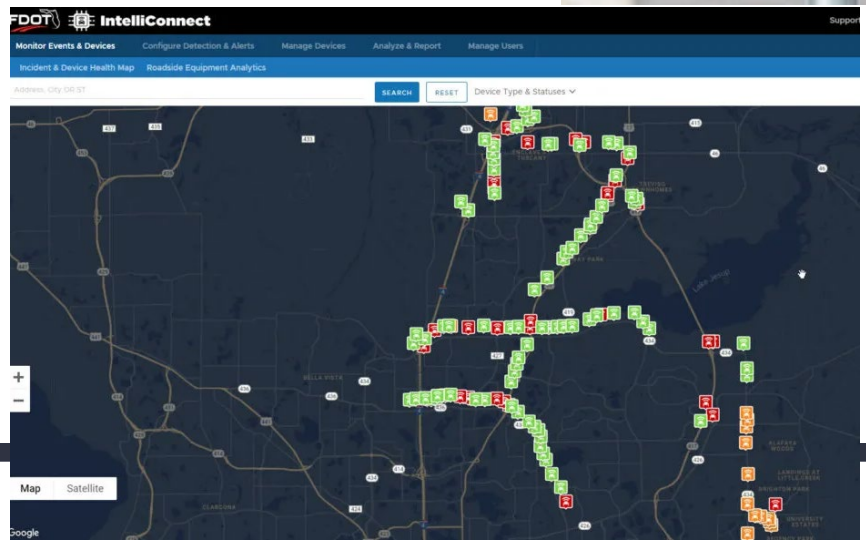
# NCHRP 20-24(147) AV PEER EXCHANGE

- NCHRP 20-24(147): Identifying Best Practices for Automated Driving Systems and Other Emerging Technologies
- March 25-27, included AV demo day
- Share best practices and lessons learned to guide state DOTs in investing wisely in connected, automated, and emerging transportation technologies
  - Programmatic & Policy Approaches
  - Project Development & Evaluation
  - Infrastructure Readiness & Data Management
  - Safety & Risk Management
  - Organizational Readiness & Workforce
  - Resources & Funding

# NCHRP 20-24(147) AV PEER EXCHANGE

State CAV Roundtable Highlights

- Florida DOT
- Colorado DOT
- Caltrans (District 12 – Orange County)
- Mississippi DOT
- Arkansas DOT



# NCHRP 20-24(147) AV PEER EXCHANGE

Interstate and Jurisdictional Coordination

- Smart Belt Coalition
- (TxDMV) International Registration Plan (IRP)
- TETC efforts expanding Data Marketplace
- Challenges
  - Purple light enforcement inconsistencies
  - Need for better cross-state familiarization and data feed alignment
  - Zeke (TxDOT) shared lessons on 30-minute AV tech demo formats both positive and not always working due to complexity

# NCHRP 20-24(147) AV PEER EXCHANGE

Procurement, Standards and Vendor Engagement

- Challenges
  - Siloed decision-making across DOT departments
  - Low-bid procurement undermining long-term AV/CV investment
  - Misalignment between hardware/software lifecycles and DOT capital/maintenance budgets
  - Concerns over IP ownership and application maintenance post-deployment
- Opportunities
  - Encourage Agile and milestone-based contracting models (e.g., FDOT's performance RFP).
  - Use pooled funds (e.g., MAASTO) and collective procurement approaches to accelerate standard adoption
  - Emphasize regional alignment and shared product vetting

# NCHRP 20-24(147) AV PEER EXCHANGE

Data Governance, Scalability & Operations

- Drivewyze electronic log in cab alerts highlighted integration with HSIP—100% eligibility for some deployments.
- Simple Network Management Protocol version 3 (SNMPv3) RSUs facing issues; feedback highlighted importance of designing for manageability.
- Push for stronger data feedback loops between DOTs and vendors.
- Product list vetting delays were noted, with some products taking over two years to get approved in Florida.

# NCHRP 20-24(147) AV PEER EXCHANGE

Recommendations and Path Forward

- **Improve procurement strategies**: Collective actions, milestone-based RFPs, pooled purchasing.
- **Increase cultural readiness**: Establish research and vetting teams. Record training. Identify internal allies across agency.
- **Address scalability**: Coordinate test-to-deployment pipelines and accelerate product approvals.
- **Document best practices**: Formalize lessons learned, training modules, and deployment templates.

# NCHRP 20-24(147) AV PEER EXCHANGE

Participant Feedback (evaluation form summary)

- Key learnings
  - Cross-agency examples of procurement reform and vendor collaboration
  - Deployment strategies for RSU and AV pilots
- Important actions
  - Data management and RSU standards
  - Investment strategies beyond pilot phase
- Future Peer exchanges
  - Invest in deeper dives into legal frameworks, risk-sharing models and standard development
- Suggestions
  - More case studies with cost/benefit data
  - Reduced time on high-level topics, increased focus on implementation details

# AUSTIN AV STAKEHOLDER MEETING

Topics

- City of Austin Autonomous Vehicle Update
- Safety Protocols and Incident Management
- Public Engagement Strategies
- Integration with Public Transit and Sustainability Initiatives
- Infrastructure and Data Tools
- AV Exhibition and Map Activity

# AUSTIN AV STAKEHOLDER MEETING

## City of Austin Autonomous Vehicle Update

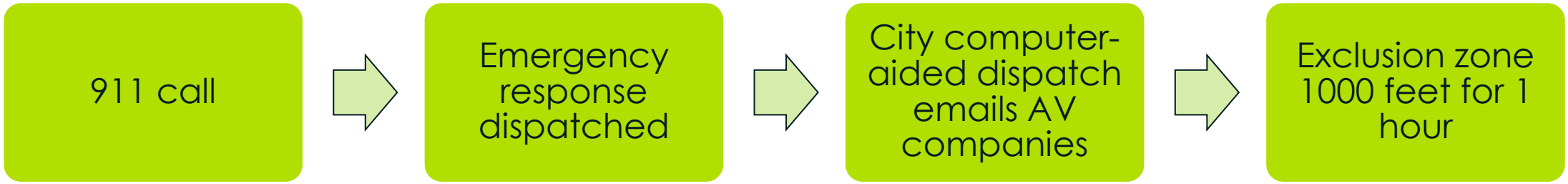
- AV changes since 2024
  - Cruise out
  - Three new AV operators: Waymo, Zoox, and Tesla
- Austin operates under a **"governance by collaboration"** model:
  - State law sets the broad rules
  - Focuses on **influencing behavior** through partnership agreements, memoranda of understanding, and informal guidance.
  - Austin's hands are tied in terms of charging any fees or taxes specifications
    - City must cover costs (like police training or infrastructure tweaks for AVs) or seek state assistance, rather than directly from the AV operators.

**Lewis Leff (City of Austin):** *"AV operations have expanded since our last meeting... Austin is a committed partner for innovation, first AV test in 2015. Many lessons learned, and still more to learn."*

# AUSTIN AV STAKEHOLDER MEETING

## Safety protocols and incident management

- Geofencing Emergency Scenes



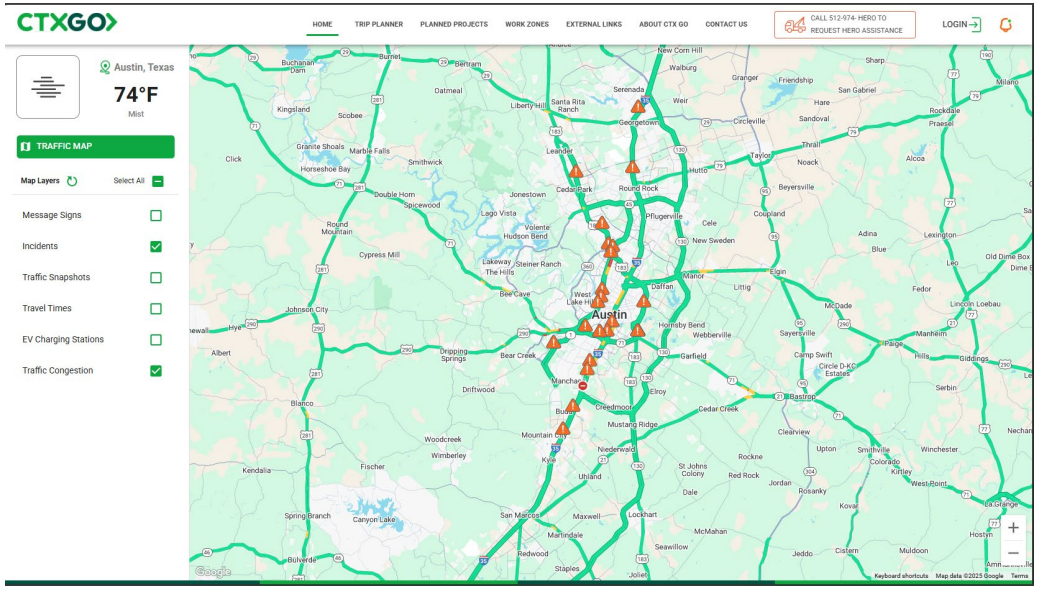

- Integration with Emergency Services
  - AVs work with first responders to address issues
    - Trouble recognizing lights and sirens
    - Hand signal concerns

**Phil Pierce (Zoox)** – *"A big hand signal is helpful [to communicate with our AV], but we're not asking first responders to change their behavior."*

# AUSTIN AV STAKEHOLDER MEETING

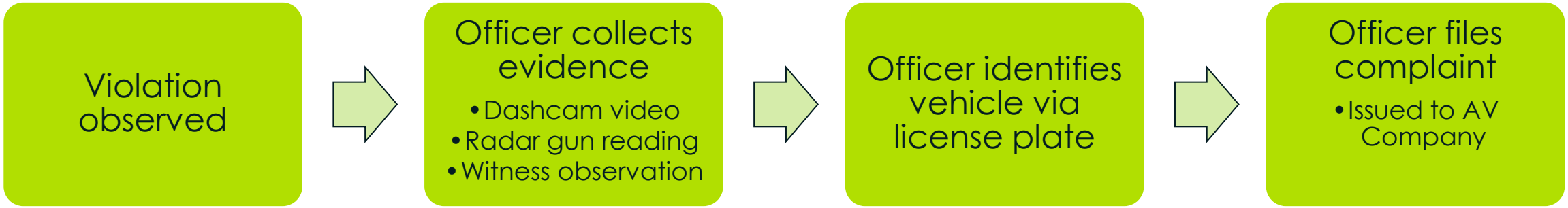
## Safety protocols and incident management

- Crowd Control Special Events
  - CTX GO (Central Texas Go) Mobile App & Traffic Data
  - Before: provide road closures, traffic patterns, schedules to AV companies in advance
  - During events: Geofencing – AV companies may voluntarily restrict vehicles
  - Protocols in place if AV goes into event area
  - Encourage attendees to use alternate routes
  - AV drop-off zones, limit fleet activity
- Incident Tracking Dashboard



# AUSTIN AV STAKEHOLDER MEETING

## Enforcement Mechanisms: Autonomous Vehicle Traffic Citation Process




- Officer not required to pull-over AV, may come after an incident not during
- First cases – accountability to AV company
- Enforcement collaboration
- Limitations
- State support

# AUSTIN AV STAKEHOLDER MEETING

## Public Engagement Strategies

**Community acceptance is earned not given.**

- Open houses
- Vulnerable populations
- "Zoox Explorer" Program
- Educational Programs and Demos: "Tech Talk" sessions, mobility fairs, university research demos
- Transparency and communication
- Address public concerns openly and honestly

*"Public open houses at coffee shops and partnering with blind and low-vision communities have been really valuable."*

# AUSTIN AV STAKEHOLDER MEETING

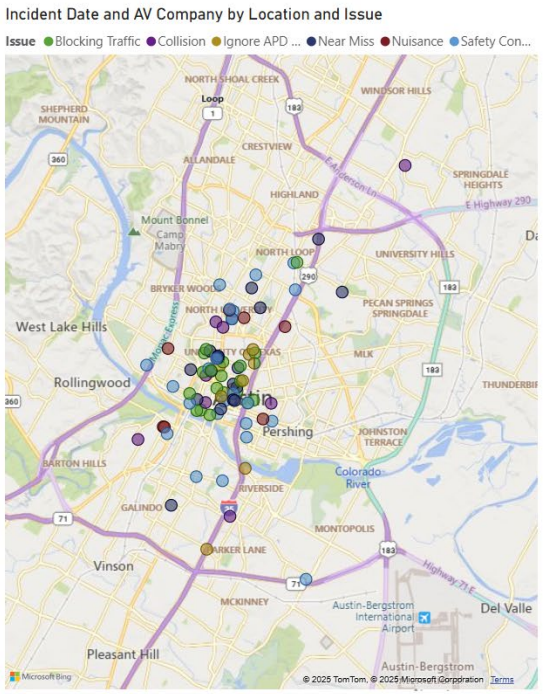
## Integration with Public Transit and Sustainability Initiatives

- Complementing Public Transit (Not Competing)
- Mobility-as-a-Service (MaaS) Integration
- Sustainability Benefits and Challenges
  - Electric Fleets
  - “Share” over “Single – Occupancy”
  - Traffic and Land Use
- Infrastructure for Sustainability
- Pilot projects bridging sustainability and AVs – CapMetro
- Travel Demand Management

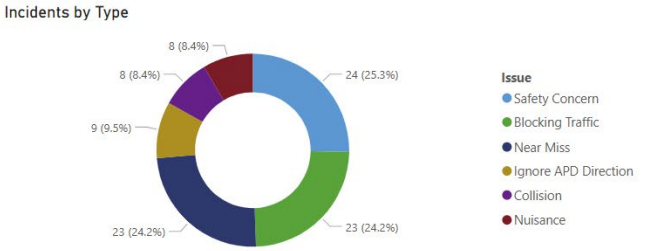
# AUSTIN AV STAKEHOLDER MEETING

## Infrastructure and Data tools

- AV incident dashboard
- Work Zone Data Exchange
- CTX GO Mobile App & Traffic Data
- Maintaining Road Markings and Signals
  - Adjusted maintenance schedules
  - LED bordered signs & brighter signal lenses
  - Geo-fenced zones for pickup & drop-offs
  - Potential AV bays
  - Dynamic curb management
- Traffic Management Centers and AV Data







# AUSTIN AV STAKEHOLDER MEETING

AV Exhibition

- Waymo
- Zoox
- Tesla
- CapMetro/VW

# AUSTIN AV STAKEHOLDER MEETING

## Map Activity

- Stakeholders labeled "opportunity" or "sensitivity" on 5 different maps
- Sensitive zones
  - Entertainment district at night
  - School zones
  - University of Texas (west campus due to jay walkers)
  - Emergency hubs
  - Infrastructure pain points (complex intersections, frequent near misses for humans)
- Opportunities
  - Areas near the airport
  - Specific "outer" neighborhoods

# AUSTIN AV STAKEHOLDER MEETING

## Lessons and Recommendations for Iowa

**Policy & Regulatory Approach**

- Discuss an AV framework
- Plan for enforcement mechanisms
- Iowa can encourage AV innovation and protect public safety

**Partnerships & Collaboration**

- AV Deployment Working group & ATC
- Engage emergency responder
- Coordinate with state and national forums

**Public Communication and Education**

- Develop public engagement plan for AVs
- Host demonstration days
- Clear channel for public to report AV issues or concerns
- Consider public advisory committee that includes everyday people or key groups (seniors, advocates for individuals with disabilities, rural )

# AUSTIN AV STAKEHOLDER MEETING



# 2025 SUBCOMMITTEE UPDATES

- Dylan Mullenix, Policy & Legislation
- Col. Nathan Fulk, Public Safety & Enforcement
- Rick Petersen, Economic Development
- Infrastructure Readiness - vacant

# POLICY & LEGISLATION SUBCOMMITTEE

Dylan Mullenix, P&L Chair

- Last meeting: March 13, 2025
- AV Deployment Working Group Update
- NHTSA proposed Automated Driving Systems-Equipped Vehicle Safety, Transparency, and Evaluation Program (AV STEP)
- Iowa Senate Bill
- IIHS State AV laws
- AV Interactions update

# PUBLIC SAFETY & ENFORCEMENT SUBCOMMITTEE

Colonel Nathan Fulk, PS&E Chair

- Last meeting: March 28, 2025
- AV Deployment Working Group Update
- AV Interactions
- Lifesavers Conference update
    - SAE AVSC Best Practice for First Responder Interactions with Fleet-Managed Automated Driving System-Dedicated Vehicles
    - California highlights
    - Austin FD chief

# ECONOMIC DEVELOPMENT & INFRASTRUCTURE READINESS JOINT SUBCOMMITTEE

Rick Peterson, EcDev Chair

- Last meeting: September 27, 2024
- Future meeting TBD


# GATIK: AUTONOMOUS TRANSPORTATION NETWORK FOR THE MIDDLE MILE

Rich Steiner, Vice President Government Relations and Public Affairs


# GATIK: Q&A

Rich Steiner, Vice President Government Relations and Public Affairs


# LUNCH PRESENTATION

Cheryl Roe, Driving Safety Research Institute, University of Iowa

# ADAS EXPERIENCES

- **Behavior like ADS shuttle**
  - Need for speed
  - Left turns onto highways
  - Kalona square
  - Gravel road
- **Behavior at…**
  - Traffic lights
  - Construction zones
  - Merging
- **Inappropriate braking**
- **Lane changes**


Tesla Model S - "Supervised Full-Self Driving"


# WRAP-UP

- Announcements & Updates
- Next Meetings
- Adjourn
- AV Truck Viewing

# THANK YOU