MEETING NOTES

Iowa Advisory Council on Automated Transportation

Thursday, September 12, 2019
10:30am – 12:30pm
Iowa League of Cities
500 SW 7th Street, Suite 101, Des Moines

1. Welcome – Mark Lowe (10 minutes)

   Attendees:
   - Mark Lowe (ATC Chair), Andrea Henry – Iowa DOT
   - Dylan Mullenix (Policy & Legislation Subcommittee Chair) – Des Moines Area MPO
   - Rick Peterson (Economic Development Subcommittee Chair) – Iowa Economic Development Authority
   - Nathan Fulk (Public Safety & Enforcement Subcommittee Chair) – Iowa State Patrol
   - Erin Mullenix (Infrastructure Readiness Subcommittee Chair) – Iowa League of Cities
   - Don Egli – Iowa Motor Truck Association
   - Jared Kirby – Iowa Insurance Division
   - Shane Walter – Iowa State Association of Counties
   - Ashley Hinson – Iowa House of Representatives
   - John Gibson – Iowa Division of the Federal Highway Association (FHWA)
   - Shirley McGuire – Federal Motor Carrier Safety Association (FMCSA)
   - Susan deCourcy – National Highway Traffic Safety Administration (NHTSA)
   - Tom Banta – Iowa City Area Development Group (ICAD)
   - Daniel McGehee, Omar Ahmad, Anna Dizack – University of Iowa
   - Neal Hawkins – Iowa State University InTrans
   - Scott Marler, Donna Matulac, Adam Shell, Mikel Derby, Mitchell Dillavou, Renee Jerman, Garrett Pedersen, Andrew Lewis, Jim Schnoebelen, Sara Siedsma – Iowa DOT
   - Peter Rafferty – Gannett Fleming
   - Kristen Forret – EMC Insurance Companies
   - Mickey Shields – Iowa League of Cities
   - David Kidd (guest speaker) – Highway Loss Data Institute
   - Mark Nahra – Woodbury County
   - Mark Peterson – AAA Minnesota/Iowa
   - Mike Carberry – Green State Solutions
   - Tom Rohe – Plymonth County
   - Travis Grassel – Iowa Insurance Division
   - Danny Waid – Iowa County Engineers Association Service Bureau

ADS Demonstration Grant
- Dan McGehee – USDOT Automated Driving System (ADS) Demonstration Grant. More than 70 applications. We developed the ADS for Rural America project and just found out we received it, though it hasn't yet been announced publicly by the USDOT (some senators and congress people, including Congressman Loebsack, have announced their state's awards, so these are public). Hoping to announce our $7 million grant award soon. Our project has a rural focus for aging population. UI submitted application, in partnership with the Iowa DOT and ISU.
- Omar Ahmad – Reviewed slides. A 2.5-year project. Outcome will be a dataset unparallel to anything else out there. We'll be driving in different conditions, during different events (ex. football traffic). Data will be made available for others to access and use in research and will be available for five additional years after the project has concluded.

2. Subcommittee Updates (25 minutes)
   a. Policy & Legislation – Dylan Mullenix
      - Meeting on July 30th
      - Discussed ATC visioning with five focus areas
      - Adam Shell, Iowa DOT, talked about recent state legislation (HF387 and SF302)
      - Representatives from Nationwide Insurance presented on AVs and the insurance industry
         o It's going to be a slow process, which provides a window of opportunity
         o Who knows what vehicles will have various technology – how does insurance verify?
         o Discussed data sharing and security issues
   b. Economic Development – Rick Peterson
      - Meeting on August 7th
      - ATC vision update and discussion of five focus areas
      - Discussion with Accenture/Pillar Technology and New Bohemian Cooperative on emerging tech companies
      - AVs can provide a mobility opportunity to level the playing field from an economic standpoint and also for citizens who don't have the technology or access to a vehicle.
      - Pillar is leading the way in Columbus, OH for Smart City project
      - Reached out to ABI – largest trade organization in Iowa
      - Dan McGehee – possible partnership with British company, Latent Logic. They're using HD traffic cameras in Dubuque to analyze braking patterns to train AV vehicles and support AI/ML. Company is interested in coming to the US and Iowa.
      - Anna Dizack – can build from the upcoming ADS for Rural America grant to strategically reach out to businesses. We're starting to plan/strategize for this.
   c. Public Safety & Enforcement – Nathan Fulk
      - Held meeting on August 15th

- ATC vision discussed. Adapting to changing laws, exploring vehicle identification standards (how to mark AVs for law enforcement), promoting crash scene investigation, safe incident management.
- DPS attorney, Catherine Lucas, participated in meeting, did a lot of research and review beforehand. They need to make sure law enforcement is trained.
- Following distance discussion as part of HF387. Talked about challenges to reasonable and prudent. Iowa is not concerned with this constitutionally. Catherine found DOT training manual has info on this. Need to make sure we're consistent.
- Platooning regulations. Discussion of emergency response as it relates to platooning.
- Adam Shell, Iowa DOT, provided an update from the Automated Vehicle Symposium (AVS) meeting.

d. Infrastructure Readiness – Erin Mullenix
- Met August 27th
- Discussed ATC visioning update. As Peter Rafferty said, infrastructure readiness is more than just pavement—it includes physical and digital infrastructure. How is this being aligned and how does the rural nature play into this?
- Adam Shell, Iowa DOT, presented on the Cooperative Automated Transportation Service Layer Plan (CAT SLP)
- Mike Lauer with the Iowa Communications Network (ICN) presented on the Iowa's digital infrastructure. Iowa has an advanced network and 5G opportunities. Constantly improving upon the network. Discussed legislative needs and discussion to expand the network use.
- Neal Hawkins and Skylar Knickerbocker presented on the Iowa Signal Phasing and Timing (SPaT) Map Demonstration Project. First system installed in Dubuque.
- Dylan Mullenix – Senator Cournoyer was on the call, asked Mike Lauer to get in touch with her on how we can address legislative issues around expanding ICN.

- Anna Dizack – asked Adam Shell to discuss direction for next quarter's subcommittee meetings
- Scott Marler – subcommittees are where we get the work done. This is an open invitation to get involved and be engaged with the subcommittees.
- Adam Shell – next quarter we will have joint subcommittee meetings to collaborate on topics discussed this quarter. Infrastructure Readiness and Economic Development will meet together. Policy & Legislation and Public Safety & Enforcement will meet together.
- Scott Marler – clarification – we're not combining the subcommittees, but just this round of subcommittee meetings.

3. Iowa AT Planning – Peter Rafferty (10 minutes)
- Peter Rafferty provided a handout on the ATC vision (handout inserted after these meeting notes and PDF document included in "September 12,

2019 ATC Meeting" SharePoint folder). Walked through items under each subcommittee.

- Next steps:
  - Joint subcommittee meetings, as discussed.
  - Take a close look at the handout and provide comments or bring additional items to the joint subcommittee meetings.
  - Provide any comments to Peter Rafferty, Adam Shell, or Anna Dizack
- Scott Marler – echoed Peter's invitation to provide comments. This is our plan to work on becoming an AV-ready state.

4. ATC Communications – Andrea Henry (10 minutes)
   - Andrea Henry discussed information on the plan to appoint one communications professional to each subcommittee. These communications reps will then meet as a team to discuss approach. This group will need to reach out to others to accomplish tasks and push out information.
     - Policy & Legislation: Andrea Henry, Iowa DOT
     - Infrastructure Readiness: Rachel Bennett, Iowa State Association of Counties
     - Economic Development: invitation extended, awaiting response
     - Public Safety & Enforcement: DPS communications person unable to accept role due to workload, Andrea Henry working on finding new rep
   - Branding – currently working on a PowerPoint template, new logo for the ATC, color scheme, etc. (see ATC meeting presentation for colors and example website page).
   - As we move forward, we will also be working to develop a disaster communications plan to deal with a major AV crash (example cited in ATC visioning process).
   - Currently working on a website. Team has discussed different options and come up with the three that best fit for now.
     - AVinIowa
     - IowaDrivingAV
     - IowaATCouncil

     - Dan McGehee – likes IowaDrivingAV. More active, like we're driving AV research in the state.
     - Mark Lowe – agrees, likes IowaDrivingAV
     - Nathan Fulk – liked the IowaDrivingAV, not IowaATCouncil (which portrays just a focus on the Council)
     - Dylan Mullenix – why AV in title vs. AT?
       - Andrea Henry – we decided that AV may be preferred, as it is what the public likely understands/recognizes more than AT.
     - Shirley McGuire – IowaDrivingAV gets her vote
     - From the initial discussion, IowaDrivingAV was the preferred one of the group. We should get any feedback by the end of the day Monday so that the URL can be established.

- o Anna Dizack – we can always change the name later if we find something we like better, correct?
  - ▪ Andrea Henry – yes, we could do a redirect.
- Andrea Henry – do we secure a .com, .net. or .org address? .com typically used for commercial entities, .net for tech or network company (might be good to reflect for this group), and .org is usually schools and non-profits.
  - o Mark Lowe – likes .org. Doesn't feel like a business or trying to sell something. We're trying to be a trusted resource and have many non-profits participating.
  - o Shirley McGuire – agrees, like .org
  - o Neal Hawkins – like the comfort level of .org. Can we purchase all three to hold them but use .org as the primary?
    - ▪ Andrea Henry – yes, we plan to purchase others and do redirects.
- Andrea Henry – provided a website mock-up. Goal is to keep it focused and providing key messaging. Focus on the core charter with the group, anticipate this growing over time.
  - o Neal Hawkins – a changeable banner would be nice, with some rural scene photos, too.
  - o Dan McGehee – we have some images of rural AV and simulators we could provide.
  - o Mark Lowe – echoed rural focus. Would like to see people in pictures, too. Human element is important.
  - o Dan McGehee – add university partners to list?

5. The Impact of Automation on Roadway Safety and Insurance, Dr. David Kidd – Dan McGehee (60 minutes)

David G. Kidd is a senior research scientist at the Highway Loss Data Institute. Dr. Kidd studies how drivers use different technologies, whether they are built into vehicles or brought into them, and the effects of those technologies on driver behavior, cognition, performance and safety. He has authored papers on topics such as driver assistance and driving automation technology, distracted driving, safety belt use and rear visibility. Prior to joining HLDI, Dr. Kidd spent seven years at the Insurance Institute for Highway Safety. He received a bachelor's degree from Virginia Tech and a doctorate in psychology from George Mason University.

- Dr. David Kidd presented information about the Insurance Institute for Highway Safety (IIHS) and Highway Loss Data Institute (HLDI) and information on US auto insurance basics.
- Real world effects of crash avoidance systems was discussed and how HLDI is working to gather auto manufacturers VINs and understand the types of features associated with those vehicles (a work in progress).
- There is a voluntary commitment from 20 OEMs to make automatic emergency braking (AEB) a standard feature on all cars by September 2022.
- While humans aren't perfect at driving, we're not bad. It's important to determine what went wrong when involved in a crash.

- 41% of the 94% of crashes attributed to humans were recognition errors. ADS needs to reliably recognize and avoid critical situations better than humans.
  - 33% were decision errors (speed, wrong assumptions about other road users, illegal maneuvers, aggressive driving, etc.) – ADS needs to make better decisions, obey traffic laws and predict the future better than humans.
  - 11% performance and 7% nonperformance errors – no or insufficient braking, oversteering, etc.
- Functional performance – looking at Level 2 (L2)
  - Automatic emergency braking (AEB) is overrepresented in some types of rear-end crashes (turning vehicle, weather conditions, changing lanes, high-speeds – some areas that AEB struggles to recognize and react to).
- Adaptive Cruise Control (ACC)
  - At higher speeds technology ignores stationary objects, so human driver needs to intervene because tech won't work
  - Less common hazards may or may not be detected (ex. stopped postal truck, farm equipment, first responder vehicles, etc.)
  - Tesla Autopilot limitations. Lane lines – Tesla designed to follow solid lane line which is what has caused vehicles to crash into attenuators when lanes split
- Challenges for the insurance industry:
  - Reliable information about vehicle features does not exist
    - Rely on partnerships with OEMs. No database of VIN data.
  - Software updates can change function and performance of existing hardware – insurance has no way to know if software updates have been accepted in which vehicles
  - Data sharing for establishing liability, supporting accurate pricing, and assisting with risk management – how to determine which ADS was activated, did driver try to take control, etc.
  - Equipment that enables advanced technology may be mounted in locations susceptible to damage
    - May not be cheaper to insure because crashes/claims may go down but the cost to fix vehicles with this tech will increase significantly
    - Does this mean liability insurance needs to increase in the future?
  - Fleet fitment of ADAS and driving automation – turnover of passenger vehicles is very slow. 2038 prediction is that 98% of vehicles registered will have rear cameras.
- AVs will be here soon, but the use cases will be limited at first

- Erin Mullenix – was there any look at demographics of drivers with the decrease in claims of those that own ADS technology?
  - David Kidd – we have demographic, geographic info on who can drive the vehicle.
- Mark Lowe – Markings and signs – state has no liability unless infrastructure is confusing. When does it become confusing for the vehicle?

Vehicle inspection process (last in Iowa 1983) – question if we need to do this now.
  o David Kidd – many other states pondering this as well. Also commented on the need for infrastructure condition.
- Mark Lowe – once had a gentleman comment: "how do I advocate for less safety features on a vehicle?" Affordability issue. There is still an economic component of availability of new tech due to cost.
  o David Kidd – there are a lot of education and financial issues.
- Scott Marler – What is the average time to get saturation of a new tech? Market penetration for passenger fleet to turnover?
  o David Kidd – Approximately 25-30 years
  o Scott Marler – commercial fleet not the same, correct?
  o David Kidd – correct. Faster, flips over more. HLDI not looking at this now but working on it.
- Dylan Mullenix – Will you work with cities/counties to discuss what works best for AVs in terms of lane markings?
  o David Kidd – eventually. Currently getting feet wet with ADS/AV and infrastructure within V2I. Build a more representative knowledge of what works for AVs. Someday look at what is needed to ensure safety.
  o Neal Hawkins – AASHTO and others having conversations, working to get standards out there.
- Jared Kirby – insurance companies providing telematic options – is this data being used in HLDI research?
  o David Kidd – HLDI would like to. Limitations because conventional ways of scoring are still based on old categories and companies are not willing to share data. Not using data off of vehicle yet due to lack of sharing. Insurers realizing info in vehicle or phone is a stop gap, so we see an opportunity for V2V or V2I to determine driver rating.
- Peter Rafferty – VIN data – seeing other states collecting information in other ways. Are there any other states collecting this VIN information and do they have any recommendations in that regard?
  o David Kidd – A lot of states are trying to figure out their way. California is leading the way as it relates to HAV testing. Integrate the options in the VIN or get during registration stage. Maybe there's a way to indicate automation—VINs alone won't work, need to supplement with other data.
  o Neal Hawkins – working with rental car companies – it's a smaller subset to look at.
  o David Kidd – not necessarily. Rental car companies likely don't even know what they have in their fleet. Or the tech may be turned off. Example: his seatbelt reminder was turned off.
- Mark Lowe – use registration system to capture AV/ADAS. Always issues in changing this and regulations related to AAAMVA. Standards to crash reporting, need to update.
- Neal Hawkins – Are there any recommendations for local or state agencies to inform change? Biggest claims is parking – 8' isn't wide enough, make spaces larger.

- o David Kidd – people are just bad at parking. Rumble strips, guardrails, automated enforcement, machine vision for distracted driving. Hoping to get more involved in the infrastructure question but not there yet. Keeping people from hitting hard stuff. Data collection and sharing.
- Mark Nahra – A lot of studies done on pavement markings. Cost to bring pavement markings into compliance. Concerns with cost to do this at the local level—6" markings would triple county's pavement marking budget to meet the reflectivity and wider lanes. Counties will not have the budgets to do this. Gravel roads haven't been figured out yet.

6. Wrap-up – Mark Lowe (5 minutes)

   a. MAASTO CAV Summit in Wisconsin, October 16-18, 2019 (10 Midwest states)

      - Scott Marler provided an overview of the summit, what we are prioritizing in the Midwest for CAV needs. If we have thoughts to take to the summit, he can carry them forward.

   b. Next Meetings
      - Tentative: Wednesday, December 4th from 1-3pm but need a location first.
         - o Erin Mullenix – may have League room available now. Will work with Anna Dizack to confirm.
         - o Mark Lowe – may be able to use the MVD building as well.
      - Subcommittee meetings to be adjusted for combined meetings this quarter.

   c. Adjourn