MEETING NOTES

Iowa Advisory Council on Automated Transportation (ATC)

Policy & Legislation (P&L) Subcommittee Meeting

Wednesday, February 8, 2023

10:00 - 11:00 am CT

1. **Welcome and introductions** – Dylan Mullenix, Policy & Legislation Subcommittee Chair
    a. Attendees – 21 attendees
        - Dylan Mullenix – Des Moines Area MPO (P&L Chair)
        - Steve Miller – Insurance Office of America
        - Brian Mulcahy – Des Moines Airport Authority
        - Stephan Bayens – Division of Public Safety
        - Marcus Coenen – Felsburg, Holt and Ullevig (FHU)
        - Jared Kirby – Iowa Insurance Division
        - Travis Grassel – Iowa Insurance Division
        - Brian Willham – HR Green
        - Jonathon Wood – Iowa State University
        - Skylar Knickerbocker – InTrans (ISU)
        - Dan McGehee, Omar Ahmad, Cherie Roe – University of Iowa, Driving Safety Research Institute (DSRI) (home of the National Advanced Driving Simulator)
        - Melissa Gillet, Kelli Huser, Alex Jansen, Andy Lewis, David Lorenzen, Garrett Pederson, Adam Shell, Toni Smith – Iowa DOT

    b. New members
        i. Brian Mulcahy – Assistant Executive Director, Des Moines Airport Authority

2. **AV Insurance – Market Report** – Steve Miller, Innovation Lead, University of North Carolina Safety Research Center *(slides omitted from meeting summary)*
    a. Steve Miller joined the Insurance Office of America (IOA) in March 2020 and quickly began building out their Innovation and Mobility Division. His client's industries include transportation, technology, and manufacturing. Under Steve's leadership, IOA's Innovation Group has received national acclaim. Risk & Insurance Magazine recognized Steve as a Transportation and Technology Power Broker in 2021 and 2022, largely for his work in future mobility and autonomy.
    b. IOA has experience with variety of AV modes (sidewalk robots, forklifts & mining equipment, lawn mowers, heavy trucks, etc.).
    c. AV Coverage Overview
        i. Connected vehicles (CV) and automated vehicles (AV) have broaden the scope of insurance past the traditional auto liability to include cyber liability, product liability, errors & omissions, as well as other risks.
        ii. Auto insurance covers first-party physical damage and third-party liability around property damage or injury. Underwriters have been using years of experience with human drivers to evaluate price and risk. This will need to evolve as the safety benefits of autonomy is better understood.
        iii. Equipment stack insurance covers the AV equipment (LIDAR, Radar, GPU, Cameras) caused by an accident or other physical damage. It will not cover liability of any kind. The cost of this equipment ultimately leads to higher vehicle costs for AV companies which reinforces the need for insurance companies to have more affordable prices which recognize the safety benefits AVs can bring.

iv. General liability (Products) insurance covers the injury to people or property resulting from the failure of the AV company's product sold to a third party. The auto insurance sits with a motor carrier so if there is accident with a fleet vehicle, the auto liability for the carrier will respond first. If the accident occurred due to a failure with the AV product, the motor carrier's insurance will then respond to the AV company's insurance for product liability.
v. Technology errors & omissions (of the AV company) covers financial loss to a third party (partner, customer) as the result of the failure of the AV company's product to operate as intended. It covers the additional costs incurred if product recalls or fleet grounding is necessary. An example from the airline industry is the Boeing 737 Max issue led to the grounding of aircraft fleets which damaged the airline industry. The incident resulted in a $2.2 billion judgment with about $1.5 billion for loss of use. It is important that insurance companies are crafting policies that focus on autonomy and address the whole risk. Whenever possible, companies should attempt to use the same carriers on various risk types.
vi. Cyber liability will cover the internal cost and external liability following a cyber event related to data loss, privacy, etc.

d. AV Insights
i. The state of California regulated early and required $5 million for AV Testing. This regulation does not authorize motor carrier testing. It is mostly for robo-taxis. This limit has been widely adopted by other states that have formally set guidelines around testing. As the fleets grow, the rates will increase.
ii. Steve provided examples of different accident/failures that can be used as benchmarks to identify potential risks and costs for AVs. Since AV suppliers can be considered a Tier 1 supplier, insurers can review existing precedents for product liability cases of Tier 1 failure on a catastrophic level. The Takata Air Bags or Bridgestone/Firestone tires cases cost hundreds of millions of dollars in settlements and recalls. These cases highlight the importance for the AV industry (as a whole) insures for catastrophic risk. Commercial auto liability has seen an increase in "nuclear verdicts" which has driven the increase in premiums for AV companies. As AV safety benefits become more obvious these rates should go down.
iii. One important thing with retentions is that once an AV company gets to the deployment stage, they are insuring for catastrophic public risk.
iv. Rates are an interesting conversation. Over the last 8 years there has been considerable loss trending with avoiding severity as well as on-board telemetry & recording data. The recording data has been used to reduce fraud claims. This trend has led to costs coming down and insurers providing credits whenever possible.
v. Two cases involving Teslas are currently in litigation: one in Japan, one in California. Although there hasn't been any progress with either case in the last year. These cases bring up the question as to who is responsible in these crashes, the driver, or the product. The California case involves a driver operating with the "autopilot" engaged that crashed and killed two occupants. The driver is being charged with manslaughter due to negligence. Drivers need to be aware of the operating instructions and disclaimers which are provided for the autonomy system. These stress the responsibility for supervision. Unfortunately, the instructions often go unread or may not align with what is advertised. The Tesla system uses Advanced Driver Assistance Systems (ADAS), which requires the driver to maintain a view of the road and take over immediately.

e. Strategic Initiatives
i. The industry recognizes that there is a need for more targeted solutions, both on coverage and pricing. IOA has partnerships with a host of insurance tech or program entrants that are working to create new coverage forms to provide positive affirmation on what is intended to be covered for autonomy, as well as trying to provide the insurance carriers with a better understanding into safety cases and the efficacy of the safety drivers. It can be difficult for an insurance company without legacy information to come in and understand. Each AV company needs to protect their own specialized data. Insurers are unlikely to take on the risk at a said premium

when they aren't sure what it should be. Companies like Edge Case Research provide that safety engineering confidence to the insurance marketplace. Other companies (e.g., Koop.ai, Koffie Labs, Mobilitas (AAA), etc.) provide confidence to other areas (e.g., AV underwriting, telematics informed trucking, claims services, etc.).

ii. Usage based insurance (UBI) will become important as AV evolves. Currently, a few exist in the marketplace; however, they probably aren't flexible and/or targeted enough to be preferable to a traditional annual cost. As more data is collected regarding quality of the route, times of day, and safety modeling, coverages will be segmented and more specific about what rate to charge at what time and for what kind of operation. UBI will be important for motor carriers since there will be differences among local operations, long-haul operations, and intermodal operations.

iii. Another initiative of IOA is embedded product offerings. This encompasses an AV specific solution that would be used in situations when its easily identifiable that autonomy caused the accident. This would lead to less delays and less additional costs associated with subrogation and attorneys.

iv. Since there is a lack of actuarial information in this space, AV companies may take on the actuarial risk themselves because they have a better understanding of their own product. This may lead to products in the marketplace with have captive arrangements instead of a traditional insurer.

f. Insurance Broker

i. It is important for motor carriers and AV companies to include a subject matter expert (broker) when developing an insurance plan. This expert is the key link to connecting the retail broker, wholesale broker, insurance carrier, risk control, domestic and foreign markets, and a carrier underwriter.

ii. Traditional distribution models are linear, however IOA works with a model that puts the insurance carrier at the center with inputs coming in from the insurance broker, retail broker, and the AV company. This allows for unique drafts to be created specific to the risk for each entity.

g. Questions and Comments

i. Dan McGehee asked a question about which state takes priority for a crash when the state in which it occurs, and the state of AV origin have different insurance coverage requirements. For example, if Iowa's is set to $1 million and state of AV licensure is $5 million.

1. Steve: It may be unique to each. There may be people better qualified to speak on regulatory policy. The state itself is probably going to cap the auto liability judgement, which would help the motor carrier and the insurer for that motor carrier. Steve was not sure if it would prevent a cap or a separate suit against the AV company (in California) if the product failed.

ii. Dan McGehee: what is your personal take on when insurance companies will be writing these polices for production vehicles, not testing, whether its heavy truck, shuttle, or other?

1. Steve: There is a push to get vehicles on the road. I think you will see commercialization in the next year to 18 months, but it will occur in steps and in well-defined areas. Likely to continue to see 1st party testing in, which may transition into vehicles with 1st party driver out (with oversight of one-to-one teleoperator on a predefined route), then driver in with 3rd party motor carrier or where the system acts with ADAS (adaptive cruise control, lane keeping, fuel economy).

iii. Travis Grassel was interested in Steve's opinion regarding his own opinion that personal auto and commercial auto will eventually become one line of business tied to AV insurance rather than two different businesses.

1. Steve: When you hit critical mass that is absolutely the case.
2. Steve: The industry wants to see thousands of annual on-road miles to gain credible data to access risk. AV has limited on-road data due to regulatory issues, costs, testing mechanisms, etc., however there are billions of data points from simulations. Insurance

carriers don't want to see simulations because it isn't real-world, but its modeling real-world. From an actuarial standpoint, could this be something that could be contemplated? And how might that look?

3. Travis: From a modeling perspective, it's about innovation and wanting to be able to understand and validate the model. Unfortunately, models are not always completely accurate and without real-world data there is the potential for more uncertainty with the model. To obtain real-world AV data it exposes the product to the public which can increase risk to them if something goes wrong. It is important to find that balance between obtaining the real-world data (with the known risk) while also gaining the public's trust and confidence. The public must be made aware that generally AV is safe, but that accidents will still occur.
4. Steve, yes public confidence is huge topic. It is really going be mixture of public confidence, regulatory approval, technology readiness, judicial outcomes because as these AV deploys, there will be accidents. There is the possibility that claims, regardless of the severity, could have larger payments when autonomy and/or technology companies are involved.
5. Travis: with the unlimited loss potential, it can be difficult to come to agreement on the rates/coverage because how can you estimate loss of life in some of the catastrophic cases.

3. P&L Work Plan & Tactical Actions Updates

a. Ensure CAT in Planning – Dylan Mullenix, Chair
   i. Developed a Planning Consideration guide so agencies have tools to incorporate AV into planning field. Dylan and Adam co-presented to Metropolitan Planning Organizations in September 2022. We received questions about trainings as it relates to AT. Adam referred individuals to the work being done within the Economic Development subcommittee with community colleges. Garrett Pederson, from DOT, made additional remarks about more down-to-earth planning considerations related to emerging technologies.

b. Iowa ADS Registration & Titling Update – Toni Smith, Iowa DOT (Motor Vehicle Division)
   i. The MVD is developing the processes and creating the forms necessary to register vehicles with Automated Driving Systems (ADS) in Iowa. The plan was generated after reviewing best practices from what other states are doing. The content necessary includes topics related to ADS vehicle information, Operational Design Domain (ODD), First Responders Interaction Plan, insurance requirements, ADS drivers, applicant acknowledgements (align with IA code or other states), and exemptions.
   ii. The form process flow, content review process, and managing user update process are still a work in progress. Each process requires the collaboration of the correct external entities (law enforcement, motor carrier, counties, etc.). Before these processes can be rolled out, it will take time a considerable amount of time to digitize the forms for usability and to train personnel at the various levels of the process.

c. State & Federal Legislation Update – Open Discussion
   i. Federal – Adam Shell
      1. Safe Integration of Automated Driving Systems (ADS)-Equipped Commercial Motor Vehicles (CMVs) – Docket No. FMCSA-2018-0037
      2. The Federal Motor Carrier Safety Administration or FMCSA is requesting public comment about factors the Agency should consider in amending the Federal Motor Carrier Safety Regulations (FMCSRs) to establish a regulatory framework for Automated Driving Systems or ADS-Equipped Commercial Motor Vehicle operations. The focus here is on level 4 and 5 vehicles

3. FMCSA previously published an advance notice of proposed rulemaking (ANPRM) on May 28, 2019, seeking comments on safety regulations (FMCSRs) that may need to be amended, revised, or eliminated to facilitate the safe introduction of ADS-equipped commercial motor vehicles onto the Nation's roadways.
4. FMCSA continues to consider amendments to the safety regulations (FMCSRs) to ensure the safe integration of ADS equipped CMVs into interstate motor carriers' operations and issues this supplemental advance notice of proposed rulemaking to request additional information.

ii. State

1. House Study Bill 102 – Kelli Huser (DOT, Motor Vehicle Division)
    a. This bill amends 321.518, which is the "on-demand driverless-capable vehicle network". The current bill creates a new section for drivers and companies that are using this on-demand network to connect customers for delivery of products. Currently, Uber and Lyft are regulated under the on-demand driverless network for transport of passengers. This bill adds those Uber Eats type companies to the network. In the way that the bill is written, it seems to be aimed towards services that include drivers of personal vehicles with the ADS technologies and may not include some of the delivery services like Nuro.
    b. Dan McGehee suggested that Kelli investigate companies like Starship who currently use small delivery robots across the country for delivery services. They are quite small, often found on college campuses and drive on sidewalks, not open roadways other than to cross the street (pedestrian paths only).
    c. Kelli - The bill seems to limit everything to motor vehicles which may not include these devices. More internal discussion is needed to understand if the intent of the bill is to include these devices or not. If that is the intention, the bill may need revisions.
        i. Editorial Note: Iowa Code section 321O.2 states, "…a personal delivery device operated in compliance with this chapter shall not be considered a vehicle."
    d. Travis Grassel highlighted a recent article Self-Driving Golf Cart Development: Why Is It In Demand from bi-weekly ATC clippings regarding the push for autonomy in golf carts and their use in communities. This is a topic to keep in mind as it may expand into licensing and allowing the vehicles on the road.

4. Recent & Upcoming Activities

a. **Economic Development & Infrastructure Readiness Joint Subcommittee Meeting** – Tuesday, January 24, 2023
    i. ***Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program Application for the Des Moines International Airport*** *– Brian Mulcahy, Assistant Executive Director, Des Moines Airport Authority*

b. **Public Safety & Enforcement Subcommittee Meeting** – Wednesday, February 15, 2:00 – 3:00 p.m.
    i. Real-World ADAS Effectiveness: Results from the Partnership for Analytics Research & Traffic Safety (PARTS), Chris Wiacek, Co-Chair of the ADAS Effectiveness Working Group at PARTS, National Highway Traffic Safety Administration

ATC SUBCOMMITTEE MEETING

Policy and Legislation
February 8, 2023

MEETING AGENDA

1. **Welcome and introductions** – Dylan Mullenix, Policy & Legislation Subcommittee Chair (5 minutes)
2. **AV Insurance – Market Report** - (40 minutes)
    a. Steve Miller, Innovation Lead, Insurance Office of America
3. **P & L Work Plan & Tactical Updates** – (15 minutes)
    a. Ensure CAT in Planning – Dylan Mullenix
    b. Iowa ADS Registration & Titling update – Toni Smith, Iowa DOT
    c. State and Federal Legislation Update – Open Discussion
4. **Recent & Upcoming Activities**
    a. Economic Development and Infrastructure Readiness Joint Subcommittee Meeting – Tuesday, January 24
    b. Public Safety & Enforcement Subcommittee Meeting – Wednesday, February 15

WELCOME AND INTRODUCTIONS

Dylan Mullenix –

Policy & Legislation Subcommittee Chair

NEW SUBCOMMITTEE MEMBERS

- Brian Mulcahy – Des Moines Airport Authority (Assistant Executive Director)

AV INSURANCE - MARKET REPORT

Steve Miller – Innovation Lead, Insurance Office of America

POLICY & LEGISLATION WORK PLAN TACTICAL UPDATES

Ensure CAT in Planning – Dylan Mullenix (Subcommittee Chair)

Iowa ADS Registration & Titling – Toni Smith (Iowa DOT)

State & Federal Legislative Updates – Open Discussion

POLICY & LEGISLATION WORK PLAN TACTICAL UPDATES

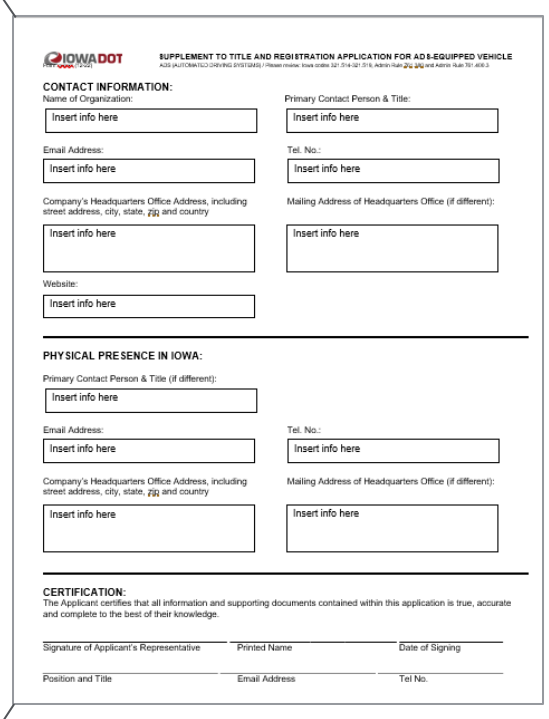
Ensure CAT in Planning – Dylan Mullenix (Subcommittee Chair)

Iowa ADS Registration & Titling – Toni Smith (Iowa DOT)

State & Federal Legislative Updates – Open Discussion

ADS Title & Registration

- ADS Vehicle information
- Operational Design Domain
- First Responders Interaction Plan
- Insurance Requirements
- ADS Drivers
- Applicant Acknowledgements
- Exemptions



IOWA DOT

SUPPLEMENT TO TITLE AND REGISTRATION APPLICATION FOR ADS-EQUIPPED VEHICLE

ADS (AUTOMATED DRIVING SYSTEMS) / Please review: Iowa codes 321.374-321.518, Admin rules 761-300 and Admin rule 701-400.3

CONTACT INFORMATION:

Name of Organization: Insert info here

Primary Contact Person & Title: Insert info here

Email Address: Insert info here

Tel. No.: Insert info here

Company's Headquarters Office Address, including street address, city, state, zip and country: Insert info here

Mailing Address of Headquarters Office (if different): Insert info here

Website: Insert info here

PHYSICAL PRESENCE IN IOWA:

Primary Contact Person & Title (if different): Insert info here

Email Address: Insert info here

Tel. No.: Insert info here

Company's Headquarters Office Address, including street address, city, state, zip and country: Insert info here

Mailing Address of Headquarters Office (if different): Insert info here

CERTIFICATION:

The Applicant certifies that all information and supporting documents contained within this application is true, accurate and complete to the best of their knowledge.

Signature of Applicant's Representative | Printed Name | Date of Signing

Position and Title | Email Address | Tel No.

Key Next Steps

- Form process flow
- Content review processes
- External work group impact / collaboration
  - Law Enforcement, Motor Carrier, etc.
- Digitizing form
- Training and rollout
- Managing user updates

POLICY & LEGISLATION WORK PLAN TACTICAL UPDATES

Ensure CAT in Planning – Dylan Mullenix (Subcommittee Chair)

Iowa ADS Registration & Titling – Toni Smith (Iowa DOT)

State & Federal Legislative Updates – Open Discussion

RECENT & UPCOMING ACTIVITIES

Economic Development & Infrastructure Readiness Joint Subcommittee Meeting – Tuesday, January 24 from 11:00 am – 12:00 p.m.

- *Brian Mulcahy, Assistant Executive Director, Des Moines Airport Authority, Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Application, Des Moines International Airport*

Public Safety and Enforcement Subcommittee Meeting – Wednesday, February 15 from 2:00 – 3:00 p.m.

- *Chris Wiacek, Co-Chair of the ADAS Effectiveness Working Group at PARTS, Partnership for Analytics Research & Traffic Safety (PARTS)*

THANK YOU