

Infrastructure Subcommittee Meeting November 19, 2018

Attendees:

- Iowa DOT: Donna Matulac, Adam Shell, Garrett Pedersen, Jim Schnoebelen
- University of Iowa: Dan McGehee, Omar Ahmad, Anna Dizack, Jim Sayre
- Iowa State University: Neal Hawkins
- AAA - Wisconsin/Minnesota/Iowa/North Dakota: Nick Jarmusz
- Des Moines Area MPO: Dylan Mullenix
- Iowa League of Cities: Erin Mullenix

Action Items:

- Subcommittee – send Anna Dizack any ideas of Infrastructure Subcommittee members by the end of December. Anna will be investigating and reaching out to potential additional members soon.
- Neal and Anna – before next subcommittee meeting, put together a list of what we see in play now regarding infrastructure in Iowa.
- Anna – send subcommittee meeting invitation to Iowa Advisory Council on AT meeting next week, in case anyone would like to attend.
- Anna – will include subcommittee on demo day invitation at NADS anticipated for January.

Meeting Notes:

Key infrastructure questions

- Neal – subcommittee items
 - Digital – exciting. They're realizing that in difficult areas like work zones, detours, etc. you're often on compromised lanes, routes, etc. DOT is working on better providing information.
 - Can we provide digital confirmation, lane closure information? Better for higher levels of autonomy. DOT is forward facing on these efforts.
 - Looking at a project on signal phasing and timing. Looking to provide some of the operational information in streams of data. Queuing and signal timing info to third party companies that package and sell it to industry/auto manufacturers.
 - Some states are doing messaging out to AV/CAVs. Even like with XM radio
 - There's a wide variety of ways vehicles and infrastructure interact.
 - He can put a list together for future meetings of what we see in play now, outlining this V2I or infrastructure to vehicle.
 - Waymo in Maricopa County – they're making sure they understand the vehicles. Spending all their time talking with first responders. Dust storms, rain, how do you operate the vehicles? This would be something to deal with first. Certainly, infrastructure plays a role this to keep AVs safe.
 - Dan – Yes, infrastructure is important in this. We don't have the pull off areas/safe harbor areas that might be needed. How do we do this with

the current infrastructure we have? What do we recommend in the next 10, 20 years?

- What are the types of things we should be planning for? What would be the impact of more automated travel?
- How many lanes do we build, how wide? Safe harbors? This is the work in front of this committee to put thoughts together on this. Could be a multi-state strategy. Connecting more than just within our state. Similar across a corridor.
 - Dan – there's operational issues, procedural things to consider.
- Donna – regional perspective. It has been a concern nationally that each state is doing their own thing. It's a huge issue for AV in the future. Definitely needs to be a regional approach. This group needs to think through the things we feel are important. Don't want to lose sight of how other states are doing things.
- Neal – electrification
 - Ruan is starting to talk about Uber electric trucks. Iowa has a great electric resource in terms of wind energy we produce. We as a group might want to think through the idea of an electric fleet. Are there places we could add value to that? Swap batteries out, recharge? A clean system and resource for this energy. How does that play into the future?
- Jim Sayre – Once we get some best practices, we advocate how people actually do these things. If we are designing a new road, what simple things could we push out to folks like him so people could consider these as they build infrastructure so we can plan for and fund it.
 - So people can do some experimentation and planning
 - Trying to promote this but they need to plan for it operationally
 - Dan – also goes toward parking structures. Mapping in three dimensions. How does a vehicle know what floor it's on in space.
 - Jim – what are the physical impacts? As they build, they need to ask what they do about AVs. But no one knows, has a list. Do they run extra conduits? Would be nice to have things for people to actually plan for.
- Dylan – what are the impacts of this technology/systems on our built environment in general? What should communities do now? What might change? More/less lanes, narrower lanes, etc. would be nice to know the potentials. A checklist of considerations would be nice (what we know now). So they don't put in millions in investments that might not be what we need in the future.
 - AVs can be a partner to public transit, or it could create sprawl. Infrastructure – what can we do to prevent consequences down the line?
- Neal – everyone talks about mapping. Does every company need to come to map? What is the process for notifying that roads have been mapped? We need to have a process.
- Erin – connectivity. 5G and advancements, regional context. Local governments across Iowa – we have almost 1000 cities with varying degrees of infrastructure and readiness. We'd probably be talking about our larger communities preparing, but thinking about how rural communities link into this is important. What do our interstates or roads look like?

- Garrett – look at a comprehensive summary of what other states are doing involving anticipatory investments. Do we know enough about the risk with these investments? If we're just speculating on what may be beneficial – what is lower risk investments and higher risk? Use that to help inform the future infrastructure planning discussion.
- This subcommittee recommending that our interstates are the first level investments for innovation? Or corridors? More consistency? Or where do we focus?
- Dan – would be interesting to do an analysis on where AVs are operating

Suggestions for additional infrastructure subcommittee members

- Erin – City representative? Metro or rural or both?
- Anna to investigate. Subcommittee to send ideas, if they think of them.

Subcommittee Chair

- No members expressed interest in taking on role. UI team will follow up at next subcommittee meeting.

Iowa Advisory Council on AT Meeting in November

- Anna to send subcommittee meeting invitation – welcome to attend.