

CAT Coalition – AV Infrastructure-Industry Working Group November 27, 2018 Meeting Notes

Attendees:

Tracy Larkin (Co-Chair)	Jack Pokrzywa	Katy Salamati
James Zizelman (Co-Chair)	Jeff Paniati	Matthew McAllister
Scott Belcher	Joe Brady	Barry Einsig
Dan Veoni	Louis Sanders	Ryan Rice
Ed Bradley	Paul Carlson	Venkat Nallamothu
Jim Zizelman	Wes Mauer	Jeremy Schroeder
Fred Bergstresser	Tracy Larkin	

Action Items:

- All: review draft outline to provide input on AV infrastructure categories that should be considered by this working group.
- Scott Belcher: share Roadmap to Connectivity Report with the working group.
- Venkat: update the meeting invite for 2019.

Introductions and Opening Remarks

- Venkat opened the meeting, Jeremy led roll call, and the WG co-chairs Tracy Larkin and James Zizelman welcomed attendees and provided opening remarks.
- Tracy thanked everyone for their work and participation, and Jim added the importance of today's discussion in getting aligned for working group activities moving forward.

Working Group Year 1 Activities Review

Venkat provided a recap of the AV I-I WG activities since being established in May 2018, including growth of membership and engagement with other partners. The outline discussed in this meeting will serve as a platform for upcoming year 2 activities.

Discussion on WG Deliverable #1 – Primer on Infrastructure and Related AV/CV Terms

Paul Carlson provided an introduction to the Primer outline, identifying Cooperative Automation as the intersection of mutual interest between infrastructure-owner operators and auto original equipment manufacturers, which includes AV developers. Tracy commented that the categories are good, and could potentially also include the challenges and potential impacts. Jim noted this effort reflects a transition from human actions to machine actions, and the identified infrastructure categories.

A roundtable was conducted for all members to provide feedback, as noted below.

- Scott Belcher noted the Roadmap to Connectivity document he shared with some group members about critical CAV communications that could also be useful to the group.

- Dan Veoni commented that these systems were developed for human vision, and 3M is working to identify the changes needed for machine vision, and what characteristics are most important for the different levels of SAE automation.
- Jeff Paniati noted that a lot of IOOs on the city level are concerned about curb space. The interface between the highway and the auto is thought of through a highway or arterial lens, but a lot of the AV function is about picking up and dropping off passengers. A report was recently released on curb space management, which includes considerations of scooters, bikes, and pedestrians. Tracy and Jim agreed on this, noting the varying changes for rideshare at airports, for example.
- Katy Salamati noted the need to change design of signage and city planning perspectives. Tracy commented that pilots have experienced very different challenges from the Las Vegas Strip versus the side streets and resort areas that are designed very differently from an urban planning perspective.
- Jack Pokrzywa encourages this group to connect with the SAE task force that just kicked off. He suggested shared mobility interaction as a term to be added as a category, which is another SAE committee. SAE is also looking at micromobility issues. Anyone interested in participating in these groups can contact Paul Carlson.
- Paul Carlson noted two ways to consider the overlap area for Cooperative Automation. First, what is needed to increase the level of automation for humans to interface and interact less with infrastructure? Second, once AVs reach a critical mass, what are the impacts? For example, rutting may occur or curb space may be in higher demand. From a design and operational standpoint, Jeff commented that these considerations should be given before a critical mass is reached.
- Matthew McAllister is interested in a more robust discussion of software considerations to help leverage resources and use open-source software, for example. Tracy agreed this is a very robust area and should be included as its own category, but it may overlap into some of the groups also.
- Tracy commented on the importance of having a common understanding of definitions and terms, such as blockchain, safety spectrum, and other laymen's terms that are common in this field but unfamiliar with the technologies and underlying needs.
- Ryan Rice commented on a new AASHTO Highway Automation task force that is working to develop a national strategy, and the synthesis that can occur between that group and this working group. The work here is consistent with the thinking in that group.
- Barry Einsig recommended adding an Internet and Communications Technologies category that would include telecommunications companies.
- Venkat noted that the USDOT AV 3.0 document includes terms that can help inform the activities in this group, and interactions in this group support other ongoing efforts.

Next Steps

It was agreed to share the document with the group, with more focused discussions to expand it. Jim noted the need to engage various stakeholders to understand the state of the art in each category, which could be done as different virtual workshops or in subgroups, with the right people in each subgroup divided by infrastructure category.

Paul recommended as a first step to identify other categories that have been missed, and then work to describe why each item is included. Paul noted that Ray Derr likely has a lot of pieces from various NCHRP efforts that could be included to minimize the effort required to complete an initial draft document, perhaps as a matrix format.

FHWA Updates

John Corbin noted several key updates:

- USDOT AV Policy 3.0 was released a couple months ago, and a focused presentation from USDOT and subsequent discussion may be helpful to support this group.
- Opportunities for collaboration include the activities for updating the MUTCD to reflect CAV needs and accelerated sharing and knowledge development across testing and demonstration sites.
- The 2018 omnibus spending bill included a funding opportunity for automated vehicle system demonstrations that should be released soon.
- The National Dialogue on Highway Automation is ongoing, however the workshops are now completed, and a summary document is now being developed. There will be two sessions at TRB on the National Dialogue to reflect on findings and identify opportunities of greatest potential moving forward.

The next WG meeting will be scheduled in 2019.

Venkat will update the meeting invite for 2019 meetings. An agenda and webinar details will be distributed closer to the date.