Cooperative Automated Transportation Coalition
Technical Resources Working Group
Quarterly Meeting Summary
Wednesday, November 5, 2020 11:00 am - 12:30 pm Eastern Time

Action Items

1. Everyone: Share leads, links, or attachments of resources with Faisal or Jeremy on:
   - Suggestions from working group (WG) members on ways to enhance impact, including: 1) proposed new WG Members, 2) communications with/Involvement in other initiatives, and 3) knowledge resources to include on the CAT Coalition Website.
   - Resources or information to support SPaT and Connected Fleet deployments.
2. Faisal/Jeremy: Coordinate and schedule a discussion with Gummada, Faisal, Navin, Carlos, and Siva to understand how the Resources WG can support various initiatives and efforts to a better closure, e.g. CAT Coalition activities and how to support or learn from the new ITS America committees in the coming year.
3. Siva: Share Connected Intersections Requirements with Faisal or Jeremy for distribution to Resources WG members.
   - Everyone: Review and provide feedback on Connected Intersections Requirements.
4. Dean: Share the current Enabling Connected Intersections verification document with Faisal or Jeremy for distribution to Resources WG members.
   - Everyone: Review and provide feedback on the Enabling Connected Intersections Verification document.
5. Jeremy: Send meeting invites for 2021 Resources WG webinars.

Meeting Summary

Ongoing Commitment to Outreach and Knowledge Transfer and Resources WG Recap
- Resources WG members were reminded to provide suggestions for proposed new WG Members, share new information about communications with/involvement in other initiatives, and any knowledge resources to include on CAT Coalition website.
- Bob Rausch asked if the CAT Coalition was planning to develop a transition plan in light of the FCC decision to reflect the impacts that will be expected? That is something that Faisal expects will occur in the coming months through engagement of each group in the coalition, as appropriate.
- Jeremy provided a brief recap of the previous Resources WG webinar in August, including updates on the CV Deployment Environment resource that is now posted on the CAT Coalition webpages; the meeting materials are posted online.

Partner and Member Updates
- ITS America: Carlos Alban provided an update from ITS America.
  - A lot of work is focused on efforts regarding the FCC and 5.9 GHz spectrum decision. The FCC is likely to approve the order of approved modifications at a meeting on November 18. The initial round of feedback is due by November 11, and ITS America expects the new order to be published in the Federal register in the weeks following the November 18 vote. Deadlines for

filing protest and other comments is within 30 days after publication. ITS America's V2X task force is meeting very frequently to discuss the potential of making additional filings and determine other actions to pursue as well.

- o A question was asked about when the 2-year "transition period" from DSRC to C-V2X begins if the FCC adopts the item on November 18.
  - Shel and Blaine noted that the rule change needs to go through the complete process before deadlines are activated, which would cause it to begin later next year.
  - Blaine and Tony English believe the consolidation of channels, into the top 30MHz, must be accomplished within a year of the Report and Order being published, so this one-year timeline likely will start in Dec 2020. Bob Rausch echoed that this time to move to the upper 30 MHz means moving 172 and 178 functionality to upper 30 MHz; thereafter is a 2-year elimination of all DSRC to be replaced by C-V2X technology.
  - The 2 -year termination of DSRC is after the second order, which has not been developed, for which the FCC is requesting input to establish the timeline and impact.
- o Carlos shared ITS America's Summary of FCC 5.9 GHz Band Proposal First Report and Order, Further Notice of Proposed Rulemaking, and Order of Proposed Modification: https://itsa.org/wp-content/uploads/2020/10/FCC-5.9-GHz-Report-and-Order-Summary-ITS-America.pdf.
- o Also, ITS America is in the process of updating standing committees, which will focus on: smart infrastructure, automated vehicles, V2X/connected transportation, emerging technologies, and mobility on demand, and sustainability and resiliency. ITS America is talking with AASHTO and ITE about how to better align the work from these groups with what is happening in the CAT Coalition. Faisal noted that the need for a conversation with Carlos about how the Resources WG can support or learn from the ITS America committees.

- ITE: Siva acknowledged a lot of work being done behind the scenes to respond to the FCC.
  - o Blaine gave an update on the RSU Standard project, which was originated by USDOT as follow-up to the RSU Specification version 4.1. A design walkthrough is planned for early December; the design builds on the ConOps and Reqs that were developed earlier in the project. Everyone is invited to attend the 2-3 day event to provide feedback to make a better document. Significant feedback on the systems engineering documents that have been developed to date is much appreciated.
  - o In parallel, the Connected Intersections (CI) effort is currently generating requirements that have some overlaps with related efforts, and will be in the next couple months. As the CI effort gets into the Reqs stage, the Resources WG can provide valuable feedback following an early release next month. Siva noted that the quarterly meetings are good for updates, but are a constraint for reviewing more intensive documents like the CI Requrements.
  - o Faisal suggested having a discussion with Gummada, Faisal, Navin, Carlos, and Siva to understand how this group can support these initiatives and efforts to a better closure. Gummada noted that this group can help shape the scope, work, and constraints to understand what to take on now versus defer to the future work plan. There's a need to align this group with what is coming up and what role this group can have.
- TRB: Ray Derr shared a summary of TRB Cooperative Research Program efforts is available at http://bit.ly/2y8gEm4. He noted appreciation for today's presentation on NCHRP 08-120 and

requested the WG let him know if there are any other projects that would be of interest for a presentation.

Infrastructure Owner Operator (IOO) / Original Equipment Manufacturer (OEM) Forum Work Plan Product Review: Preliminary Verification Resource – Overall Testing Approach

Blaine Leonard described the motivation for the Enabling Connected Intersections Project as a way to verify the messages being broadcast by IOOs and perhaps only used by IOO vehicles. Given the announcement by OEMs that vehicles will have connectivity by 2022, there is a need for these broadcasts to be tested and verified. The current effort has identified five phases of testing and verification. This effort plans to leverage and coordinate other parallel activities, followed by outreach to distribute the testing plan. This document is being developed and expected to be released early next year. The section on the first phase of testing is currently being reviewed by five volunteers from the Connected Vehicle Pooled Fund Study (CV PFS). Dean Deeter will share the current document and additional feedback is welcomed from Resources WG members. Blaine also described the vision for phases 2 and 3 in the document, which are being developed by two external projects: an M-City/UMTRI/CAMP/CV PFS project and the USDOT/ITE CI guidance document.

Blaine noted how this activity leads to two additional actions. The first will look at a tracking approach for reporting the verification of connected intersections over time. Automakers are suggesting a national database of verified connected intersections, but there are questions about what entity would maintain this database and how continued verification would take place (e.g. via passing vehicles, hardware malfunction monitor, video monitoring, or some other means). These are the types of questions being considered and addressed as part of this effort. A second action addresses the operational approach that IOOs should take when there are maintenance disruptions, temporary closures, or manual operation, for example.

Up-time requirements were not considered as part of this effort, but it may be part of other groups. Bob Rausch noted that there was a minimum availability requirement in RSU Specification version 4.1. Bob thinks up-time requirements would be system guidance, and if not in the RSU standard it would be up to the deploying agency. Bob noted that many of these are system-level issues for a CI. Up-time requirements are being investigated by Manny, Jay Parikh, and Bob as part of their work in the ITE CI effort. There is opportunity for input and feedback during the CI walkthrough. Faisal noted the importance of discussing some of these key questions across these related efforts to get some feedback that would be of value. Siva said the comment resolution process for the CI and RSU Standard is pretty extensive and can be shared.

NCHRP 08-120: Deployment of CV Technologies on Rural Corridors

Barbara Staples provided an overview of a project that is taking a systems engineering approach to examine how connected vehicle technologies can be deployed to improve safety, mobility, and efficiency in rural settings. The project is looking at the CV applications that are most relevant for rural corridors, and associated requirements for security, staffing, resources, and other needs. The outcome of this 18-month effort is to provide model concept of operations and model system requirements documents, which is expected to conclude in January 2021.

Barbara described the approach and responses for conducting surveys and interviews. A big takeaway from stakeholder feedback was the need for more timely data that could be used by respondents. The user needs were developed following a "well-written needs" process for the Model ConOps, and organized for centers, field, agency personnel, support environment, vehicle, and system level needs. She noted some user needs that were considered but not included, including V2V applications, rail crossings, signalized intersections or crossroads, truck parking, or truck platooning.

Ten use cases were developed in a step-wise approach to provide a step-by-step description of interactions with users. These use cases include general situational awareness, road weather management, general freight, freight event notification, incident response and management, work zone management, animal crossing warning, pedestrian/cyclists, non-signalized intersection safety, and rural corridor traffic management and operations strategies.

The Model System Requirements document transforms the stakeholder needs from the ConOps to t into verifiable requirements. Additionally, the effort includes a Needs-To-Requirements-Matrix as a critical tool to ensure that the system requirements covered all user needs.

Next steps for this effort include continued outreach and publication, which was recommended to be in a web-only format. Ray noted that NCHRP has funds for implementation, which agencies can request. Barbara added that an implementation plan was also developed and submitted as part of this project. Faisal requested sharing any best practices that may have been gathered as part of this effort.

2021 Webinars & Close
Members will be receiving new meeting invites from Jeremy for the upcoming Resources Working Group meetings in 2021 that will be held on Wednesdays at 11:00am-12:30pm ET on February 10, May 12, August 11, and November 10.

Attendance

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