

V2I Deployment Coalition TWG 4 Monthly Meeting Minutes

March 9, 2016 – 11:00-12:30 (Eastern)

Actions

1. Faisal Saleem: Work with Steve Lockwood and USDOT to arrange follow-up discussion between TWG 4 and USDOT regarding Deployment Guidance comments. *It was suggested that this discussion take place during the October or November meetings for TWG 4. The action will remain open until USDOT identifies a publication date for the Deployment Guidance.*
2. Faisal Saleem/Ginny Crowson: Following approval by TWG chairs and co-chairs, submit summaries of Issue 6: V2I Outreach and Issue 11: V2I Consumer Messaging to USDOT.
3. Faisal Saleem: Distribute draft agenda for April meeting to TWG 4 for further review and comment.
4. Faisal Saleem: Distribute TWG 1 detailed survey summary regarding Issue 1: V2X Applications.
5. All: Review draft agenda for April meeting and identify any additional topics for discussion.
6. All: Register by March 15 to attend the V2I DC April meeting.

Attendance

1. Faisal Saleem (Chair)*	Maricopa County, AZ	faisalsaleem@mail.maricopa.gov
2. Navin Katta (Co-Chair)*	Savari Inc.	navin@savarinetworks.com
3. Gary Piotrowicz*	RCOC	gpiotrowicz@rcoc.org
4. Emil Wolanin*	Montgomery Co., MD	emil.wolanin@montgomerycountymd.gov
5. Virginia Lingham*	MTC (Bay Area)	vlingham@mtc.ca.gov
6. Bob Arnold	USDOT FHWA	robert.arnold@dot.gov
7. Stephanie Fischer	USDOT	stephanie.fischer@dot.gov
8. Shel Leader	Private Consultant-Telecom	shel@sleader.com
9. Martha Morecock Eddy	Timmons Group	martha.eddy@timmons.com
10. Mohammed Hadi	Florida International University	hadim@fiu.edu
11. Steve Lockwood	PB	lockwoods@pbworld.com
12. Robert Taylor	Pennsylvania Turnpike Commission	robtaylo@paturnpike.com
13. Purser Sturgeon	Southwest Res Institute	psturgeon@swri.org
14. George Webb*	Palm Beach Co., FL	gwebb@pbcgov.org
15. Robert Rausch*	Transcore	robert.rausch@transcore.com
16. Bob Koeberlein*	Idaho DOT	robert.koeberlein@itd.idaho.gov
17. Clifford D. Heise*	Iteris	cdh@iteris.com
18. Tim Simodynes	Iowa DOT	tim.simodynes@dot.iowa.gov

19. Patrick Chan	Consystemec	patrick.chan@consystemec.com
20. Ed Alegre	Metro	alegree@metro.net
21. Alan Clelland	Iteris	axc@iteris.com
22. Brian Burkhard	Jacobs	brian.burkhard@jacobs.com
23. Barry Pekilis	Transport Canada	barry.pekilis@tc.gc.ca
24. Dean Erickson	Triunity Eng. & Mgmt.	dean.erickson@triunityeng.com
25. Ginny Crowson (Liaison)*	Athey Creek Consultants	crowson@acconsultants.org

*** Denotes core member appointed by Project Team**

February Meeting Recap

Faisal Saleem welcomed new working group members Barry Pekilis, Transport Canada, and Dean Erickson, Triunity Engineering and Management, to their first meeting. Faisal then reviewed highlights from the February meeting, noting that the briefing for Issue 14: Federal V2I Policy Statement had been emailed to the group on March 1. The briefing outlines the issue, potential topics of interest and a process for moving forward. It was reviewed with the TWG chairs on February 12 and it was agreed that further development of the issue would be held until the V2I Deployment Guidance is released. Faisal also noted the preliminary DSRC information from the V2I Deployment Guidance that Jonathan Walker shared after the February meeting. In February, Karen Timpone also shared an outline for V2I outreach plan that USDOT is developing. The V2I DC April meeting dates were discussed and TWG 4 members were asked to let Faisal or Navin Katta know – informally – of their plans to attend the meeting in-person. Arrangements will also be made for members to join the TWG 4 discussions during the meeting.

Faisal reviewed actions from the February meeting, noting that all but two have been completed. He invited Shel Leader to complete his action from the last meeting by sharing information about DSRC licensing for mobile work zone operations. Shel reviewed two FCC forms (FCC Form 601 Main Application, and FCC Form 601 Schedule D) associated with the mobile licensing. He explained that mobile licensing of this nature is done under Special Temporary Authorization (STA). However, an agency is required to have an overall, fixed DSRC license before requesting an STA for a mobile or temporary work zone application. Shel further explained that separate licenses are also required for different municipal associated with police, public works and such. Barry Pekilis asked if there is a cost associated with licensing and Shel noted there are no costs for government agencies to obtain a license. Bob Arnold noted that USDOT has talked with FCC about DSRC licensing and the desire to manage it within the current FCC structure. Bob Rausch asked if FCC is setting and managing priority uses since some companies are trying to use the frequency for non-safety purposes. Shel noted that there are specific channels designated by FCC for government/public safety purposes. It was suggested that TWG 4 determine if further guidance on DSRC is needed after reviewing the V2I Deployment Guidance and corresponding support resources.

Work Plan Status and April Agenda

Ginny Crowson recapped the TWG 4 work plan, highlighting work that has been completed on Issues 6, 11 and 14, and remaining work on Issues 1, 7, 9 and 13 planned to be completed by June. Ginny noted that the remaining issues all consist of TWG 4 reviewing work from other TWGs to identify further details that could be addressed by future V2I Deployment Guidance. The V2I Deployment Guidance will play a significant role for TWG 4 during the April meeting. A list of potential agenda topics, including review of the new Guidance, was shared with the group:

- Review V2I Deployment Guidance with USDOT
 - Review as group and then individually
- Discuss Issue 14: Federal Policy Statement
 - In relation to Guidance content
 - In coordination with TWG 1
 - Recap for other TWGs during plenary
- Discuss Issue 7: Understanding the Benefits and Costs of V2I Deployment
 - Review summaries from TWG 1 webinars and results from TWG 3 work
- Discuss Issue 6: V2I Outreach
 - Focus group discussion with USDOT
- Review remaining work through June 2016
 - Issue 13: Infrastructure Processes as V2I Obstacles
 - Issue 9: Understanding V2I Liability Assignment
 - Issue 6: V2I Outreach (tentative)
- Discuss potential work for TWG 4 beyond June 2016

Georg Webb also suggested allowing time for members to share plans associated with CV Pilots, Smart Cities and other deployments over the next 12 months. Bob Arnold noted that he is trying to get approval to attend the April meeting in person to present an overview of the new Guidance. Bob Rausch asked if the Guidance will address standards for maintaining roadside infrastructure. Bob Arnold replied that nothing detailed has been provided yet regarding maintenance. It was noted that this could be a potential area for TWG 4 to further develop after June 2016. Ginny concluded the work plan status review by noting that a draft agenda for the April meeting will be circulated for further comment by TWG 4.

Issue 1: V2X Applications

Navin Katta provided an overview of work recently completed by TWG 1 on Issue 1: V2X Applications. He explained the survey that was conducted by TWG 1 in January to ask infrastructure owners and operators (state and local DOTs) about several topics related to the issues being addressed by the Coalition. In addition, input from the AASHTO Connected and Automated Vehicle TWG (CAV TWG) led to additional questions in the survey. The survey was distributed by AASHTO to 48 individuals identified through collaboration of the V2I DC and AASHTO CAV TWG. Navin explained that responses from Question 3 and Question 8 in the survey are relevant to Issue 1 and Issue 13: Infrastructure Processes as V2I Obstacles in particular and may reflect the need for additional deployment guidance. Navin then highlighted the results from both questions and noted that the detailed survey summary would be emailed to TWG 4 following today's meeting for further reference.

Survey Question 3 was squarely focused on Issue 1 – asking respondents to identify the Connected Vehicle applications that are included in agency plans for Connected Vehicle deployment, or that have already been deployed. Respondents were also asked to indicate the top five applications they believed to be the most beneficial to deploy. There were six applications noted as being in plans and as being most beneficial:

- Road Weather Motorist Alert & Warning
- Queue Warning
- Vehicle Data for Traffic Operations
- Intelligent Traffic Signal System

- Signal Phase & Timing
- Warnings About Upcoming Work Zones

TWG 1 noted that these applications closely reflect the four priority application areas identified by the V2I DC Executive Committee back in September: Intersections; Queue Warnings; Work Zone Management; and Curve Warnings. As the new V2I Deployment Guidance is reviewed by TWG 4, it will be important to note where and what specific guidance is provided for these particular applications. It was asked why commercial vehicle and transit applications were not addressed in the survey and Navin replied that the applications included in the survey were based on these in the CVRIA. The CVRIA does not currently include any commercial vehicle or transit specific applications.

Survey Question 8 was focused on Issue 13 – asking respondents if they have identified any current infrastructure processes (e.g. environmental reviews, MUTCD compliance, etc.) or other challenges (e.g. lack of backhaul, technical capability, lack of developed applications, security concerns, etc.) which will prevent or hinder deployment of Connected Vehicle infrastructure. The following processes were highlighted and further detail about the specific responses is included in the survey summary prepared by TWG 1.

- DSRC Security
- Existing Patents
- IT security – lack of guidance
- Combining 2 or more CV apps into a single app
- Lack of application readiness / developed applications
- Lack of documentation of application details
- Lack of supporting research
- Uncertain timing around NHTSA rule making & anticipated rollout of vehicles with DSRC
- Simple Terminology (CV vs. AV; V2I vs. V2V vs. V2X)
- Backhaul (the lack of)
- Cities have different set of operating philosophies than State DOTs

Bob Rausch commented that there is still very limited experience and knowledge about combining two or more applications but some things will be learned through the CV Pilots. Dean Erickson asked if the new Guidance will address terminology and Bob Arnold answered that some explanations of terminology is included. George Webb noted that cities and counties both may have different operating philosophies than state DOTs. Shel Leader added that varying operating philosophies is a big issue and one that TWG 4 could potentially address further because of its diverse representation of state and local agencies. As the new V2I Deployment Guidance is reviewed by TWG 4, it will be important to note where and what specific guidance is provided regarding these particular infrastructure processes.

Next Steps and Meeting

Ginny Crowson reminded the group that the information shared regarding Issue 1 and Issue 13 today, as well as previous issues, will be further reviewed following release of the V2I Deployment Guidance. Following input from the group, Faisal, Navin and Ginny will finalize the agenda and prepare for the TWG 4 meeting during full V2I DC meeting in April. There will not be a second TWG 4 meeting scheduled for April. Ginny noted recent information from the CV Pilots regarding their webinar series. The following webinars may be of interest to TWG 4 members.

- March 2 Technical Assistance Webinar Series: Preparing Data for the Research Data Exchange for Connected Vehicle Deployments
- February Technical Assistance Webinar presentation materials and audio recordings are also available for:
 - Concept of Operations from ICF/Wyoming and Tampa (THEA)
 - Privacy Operational Concept
 - Performance Measurement Plan
 - SCMS Proof-of-Concept Interface Requirements

More information is available at: <http://www.its.dot.gov/pilots/>. The group was encouraged to register by March 15 to attend the V2I DC April meeting. Details were emailed to the full V2I DC from ITS America on February 29. Ginny reminded the group that additional meeting notices have been sent for the following TWG 4 meetings scheduled through June 2016.

- April 20-21: V2I DC Meeting in Detroit, MI
- May 18, 11:00-12:30 (Eastern)
- June 8, 11:00-12:30 (Eastern)

As the meeting dates and potential topics were shared, Alan Clelland asked how TWG 4 will address Issue 7 in relation to the other TWGs and Ginny replied that TWG 1 has already summarized information from two webinars they hosted in December and January. TWG 3 is also expected to complete work on Issue 7 by late March. It is expected that this information will be reviewed by TWG 4 to determine if there are any details that should be considered when reviewing the new Deployment Guidance. Virginia Lingham commented that with the Smart Cities grants being announced soon, there will be another group of deployments from which to gather input and lessons learned. It was suggested that TWG 4 could encourage and support the exchange of information from these experiences as part of their prospective future work after June 2016.

[TWG 4 Member Questions/Closing Comments](#)

There were no further comments from the group.

TWG 4 Work Plan Summary and Status

V2I Deployment Issues	Anticipated TWG 4 Actions	Anticipated Completion Date
Issue 1: V2X Applications	<ul style="list-style-type: none"> Identify relevant content from this issue that should be included in the overall outreach in Issue 6 based on TWG 3 findings. 	Q1-2016 Underway
Issue 2: Complementary Communications to DSRC	<i>No action planned</i>	
Issue 3: V2I Data	<i>No action planned</i>	
Issue 4: Patents-Intellectual Property	<i>No action planned</i>	
Issue 5: Security	<i>No action planned</i>	
Issue 6: V2I Outreach	<ul style="list-style-type: none"> Provide input to USDOT on V14 of Deployment Guidance. 	6-29-2015 Completed
	<ul style="list-style-type: none"> Identify outreach that may be needed to increase awareness and support of V2I among transportation agencies. 	Q3-2015 Completed and Q2-2016
	<ul style="list-style-type: none"> Provide input to USDOT on additional content for next version of Deployment Guidance. 	Q4-2015
Issue 7: Understanding the Benefits and Costs of V2I Deployment	<ul style="list-style-type: none"> Identify relevant content related to calculating the benefits and costs of V2I applications based on work by TWG 1 that should be included in overall outreach in Issue 6. 	Q2-2016
Issue 8: V2I Standards	<i>No action planned</i>	
Issue 9: Understanding V2I Liability Assignment	<ul style="list-style-type: none"> Identify relevant content related to V2I liability assignment that should be included in overall outreach in Issue 6 based on TWG 2 findings. 	Q2-2016
Issue 10: V2I Synergies with Other Emerging Technologies	<i>No action planned</i>	
Issue 11: V2I Consumer Messaging	<ul style="list-style-type: none"> Develop a description of the type of content and guidelines that are needed to be developed to enable consistent, accurate consumer messaging related to V2I applications. 	Q4-2015 Completed
Issue 12: V2I Multimodal Applications	<i>No action planned</i>	
Issue 13: Infrastructure Processes as V2I Obstacles	<ul style="list-style-type: none"> Identify relevant content related to infrastructure processes based on work completed by TWG 1 and TWG 3 that should be included in overall outreach in Issue 6. 	Q1-2016 Underway
Issue 14: Federal V2I Policy Statement	<ul style="list-style-type: none"> Identify relevant content related to a Federal V2I policy statement based on work done by TWG 1 that should be included in feedback on the V2I Guidance documents. 	Q4-2015 Underway
Issue 15: Maintaining V2I Infrastructure	<i>No action planned</i>	