

# V2I Deployment Coalition

## Technical Memorandum 3: Progress

March 17, 2016

### 1. Synthesis of the Technical Memorandum

Three technical memoranda have been developed by the V2I DC since it was established in early 2015. The first memo focused on establishment of the V2I DC and identification of the initial deployment issues for the Coalition to address. This provided the basis for how the V2I DC would be structured and what it would address in its early work. The second memo summarized the findings of Workshop 1 of the V2I DC, highlighted TWG work plans, reviewed the status of deployment issues, and summarized establishment of the V2I DC Executive Committee.

The primary **purpose of this third technical memorandum** is to summarize proceedings from Webinar 2 of the full V2I DC; share work progress of the Coalition; and, outline next steps for the Coalition leading up to Workshop 2 of the V2I DC in April 2016.

The V2I DC initially met via webinar in May 2015 to announce the formation of the Coalition and its first workshop. The V2I DC next met during Workshop 1 in June 2015 to establish the Coalition structure and being working on the initial deployment issues. **Webinar 2** was held on November 5, 2015 the Coalition met to share progress since Workshop 1. During the webinar, updates were shared regarding the Executive Committee that had been formed and a summary of their initial meeting. The five TWGs also shared their work progress during the webinar. Finally, some general updates on V2I were shared and time was allowed for open discussion among the webinar participants. [Section 2](#) of this memo provides further details about the proceedings from Webinar 2.

**The five TWGs** have continued to meet over the past several months to address the issues that each identified in their individual work plans. For those issues with interest from more than one TWG, the chairs have also continued to meet separately to coordinate work efforts among the TWGs. Information related to the work of each TWG has also been added to a V2I DC website that was developed in partnership with the National Operations Center of Excellence. The website ([www.transportationops.org/V2I/V2I-overview](http://www.transportationops.org/V2I/V2I-overview)) provides an overview of the Coalition and more detailed information about TWG progress. A summary of progress for each TWG is also presented in further detail in [Section 3](#) of this memo.

The V2I DC Project Team and Executive Committee have also developed a **proposed business plan** that describes the need for the V2I DC, the role of the Coalition, the proposed activities of the V2I DC, and operational costs for continuing Coalition work from 2016-2021. Since the V2I DC was created, Connected Vehicle stakeholders have come together to cooperate and work together as one coalition representing the various public and private sector interests in V2I deployment. In addition to identifying proposed activities and corresponding costs, the business plan also identifies funding sources to sustain the V2I DC through 2021, enabling stakeholders to continue their collaboration towards the vision of widespread V2I deployment. A brief overview of the business plan is included in [Section 3](#) and the full business will be submitted separately to USDOT.

**Next steps for the V2I DC** include a series of Project Team, TWG and Executive Committee meetings to continue the Coalition work. The Project Team will continue preparation for Workshop 2 planned for April

2016. [Section 4](#) provides further information regarding these next steps, as well as a master schedule for all V2I DC activities planned through June 2016.

## 2. V2I DC Webinar 2 Proceedings

The V2I DC initially met via webinar in May 2015 to announce the formation of the Coalition and its first workshop. The V2I DC next met during Workshop 1 in June 2015 to establish the Coalition structure and being working on the initial deployment issues. Webinar 2 was held on November 5, 2015 with the intent to share Coalition progress since Workshop 1.

Approximately 200 participants registered to attend Webinar 2. During the webinar, updates were shared regarding the V2I DC Executive Committee that had been formed and a summary of their initial meeting. Shailen Bhatt, Colorado DOT, was introduced as the Chair of the Executive Committee. He explained that the Executive Committee met for the first time in September 2015 to establish their role, define the initial focus areas and goals for the Coalition, and discuss the preliminary business plan for the V2I DC. Shailen shared that the roles of the Executive Committee are to:

- Define primary focus areas for entire V2I DC;
- Identify goals that V2I DC can use to measure progress towards accomplishing the focus areas;
- Support work of the TWGs by offering input to processes and review of work completed; and
- Elevate results of V2I DC technical work to the CAV ELT for policy level considerations.

Furthermore, as the V2I DC continues its work, Shailen explained that the Coalition's initial focus areas and goal will be to help accelerate V2I deployments related to:

- Intersections (signalized and non-signalized)
- End of queue warnings
- Work zone management
- Curve warning systems

The five TWGs also shared their work progress during Webinar 2. The V2I deployment issues, which have been the focus of TWG work, were highlighted and it was noted that several of the issues cut across multiple TWGs. For these issues (1, 3, 6 and 7), the TWG chairs have meet to establish how their groups will coordinate efforts. A series of fishbone diagrams were presented to the webinar participants illustrating how the TWG coordination will occur. Each group then shared a synopsis of their overall work plan and noted specific progress. Highlighted was an upcoming survey of infrastructure owners/operators regarding V2I application priorities as they relate to Issue 1: V2X Applications, in addition to a series of upcoming webinars regarding Issue 7: Benefits/Costs of V2I Deployment. Also highlighted were summaries of Coalition input regarding Issue 6: V2I Outreach and Issue 11: V2I Consumer Messaging, as well as context drawing developed for Issue 8: V2I Standards.

Finally, some general updates on V2I were shared during Webinar 2. Mac Lister and Karen Timpone, USDOT, provided information about Connected Vehicle and V2I training and outreach underway and under development. Mac noted that the CV 101 introductory course has been transitioned into an eLearning Course and would be available online in early 2016. The CV 102 applications and planning course will continue to be presented through 2015 with the desire to also transition it to an eLearning format. A CV 201 course focused on the more technical aspects of enabling technology will also be

developed in 2016-17. Mac added that there are a series of T3 webinars and an ITS ePrimer available online, along with additional training resources for the Connected Vehicle Reference Implementation Architecture (CVRIA). Karen Timpone, concluded the USDOT update with information about an outreach plan being developed to support Connected Vehicle and V2I specifically. The plan will address the development of outreach materials and mechanisms, as well as resources to increased understanding of V2I. As materials and key messages are developed, USDOT also intends to conduct focus groups to refine the details.

Webinar 2 concluded with the announcement of a V2I DC web site being launched in partnership with the National Operations Center of Excellence. It is accessible at [www.transportationops.org/V2I/V2I-overview](http://www.transportationops.org/V2I/V2I-overview) and Figure 1 illustrates the home page for the site. It was also noted that plans for Workshop 2 of the V2I DC are underway and targeted for spring 2016. The TWGs will continue to meet individually on a periodic basis in the meantime.

Figure 1 V2I DC Web Site



### 3. V2I DC Progress

This section summarizes the progress through December 2015 for each individual TWG based on the work plans presented in Technical Memorandum 2. This section also briefly summarizes work by the Project Team and Executive Committee to develop a business plan for continuation of the V2I DC beyond June 2016.

Table 1 presents a summary of the V2I deployment issues that are currently being addressed by the TWGs through June 2016.

*Table 1 Summary of V2I Deployment Issues by TWG*

<b>Issue</b>	<b>TWG 1 Initiatives</b>	<b>TWG 2 Research</b>	<b>TWG 3 Partners</b>	<b>TWG 4 Guidance</b>	<b>TWG 5 Standards</b>
<b>Issue 1: V2X Applications</b>	P	S	S	S	S
<b>Issue 2: Complementary Communications to DSRC</b>	N	P	N	N	N
<b>Issue 3: V2I Data</b>	N	S	P	N	S
<b>Issue 4: Patents-Intellectual Property</b>	N	P	N	N	N
<b>Issue 5: Security</b>	No action planned at this time				
<b>Issue 6: V2I Outreach</b>	N	S	N	P	S
<b>Issue 7: Understanding the Benefits and Costs of V2I Deployment and Operation</b>	S	S	P	S	N
<b>Issue 8: V2I Standards</b>	N	N	N	N	P
<b>Issue 9: Understanding V2I Liability Assignment</b>	N	P	N	S	N
<b>Issue 10: V2I Synergies with Other Emerging Technologies</b>	No action planned at this time				
<b>Issue 11: V2I Consumer Messaging</b>	N	N	N	P	N
<b>Issue 12: V2I Multimodal Applications</b>	No action planned at this time				
<b>Issue 13: Infrastructure Processes as V2I Obstacles</b>	P	N	N	S	N
<b>Issue 14: Federal V2I Policy Statement</b>	P	N	N	S	N
<b>Issue 15: Maintaining V2I Infrastructure</b>	P	N	N	N	N
<b>Issue 16: Operator and OEM Goals for V2I</b>	N	N	P	N	N

There are four issues that involve work from more than two TWGs, and the coordination was complex enough to warrant discussion and illustration of the coordination.

- Issue 1: V2X Applications
- Issue 3: V2I Data
- Issue 6: V2I Outreach
- Issue 7: Understanding the Benefits and Costs of V2I Deployment and Operation

For these issues, the TWG Chairs have met and further developed their overall approach for coordinating. Fishbone diagrams, revised since Tech Memo 2, are presented in Figures 2-5 to describe the approach for coordination, as well as the target outcomes resulting from that coordination.

Figure 2 Planned TWG Actions to Address Issue 1: V2X Applications

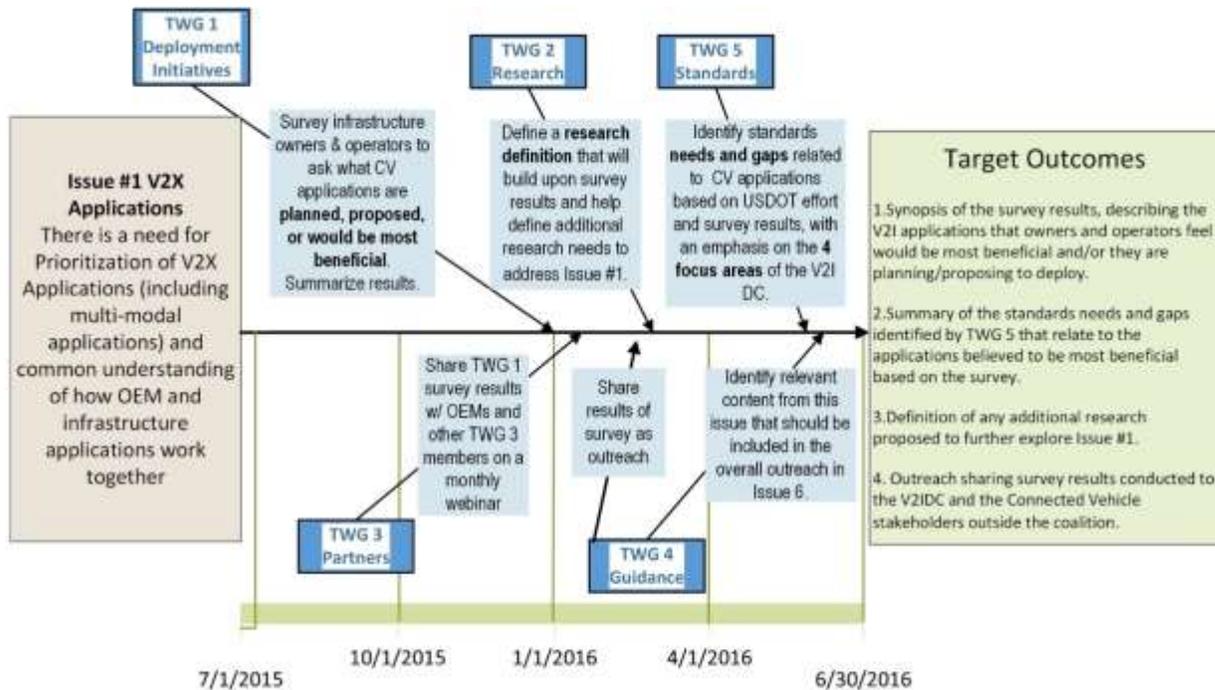


Figure 3 Planned TWG Actions to Address Issue 3: V2I Data

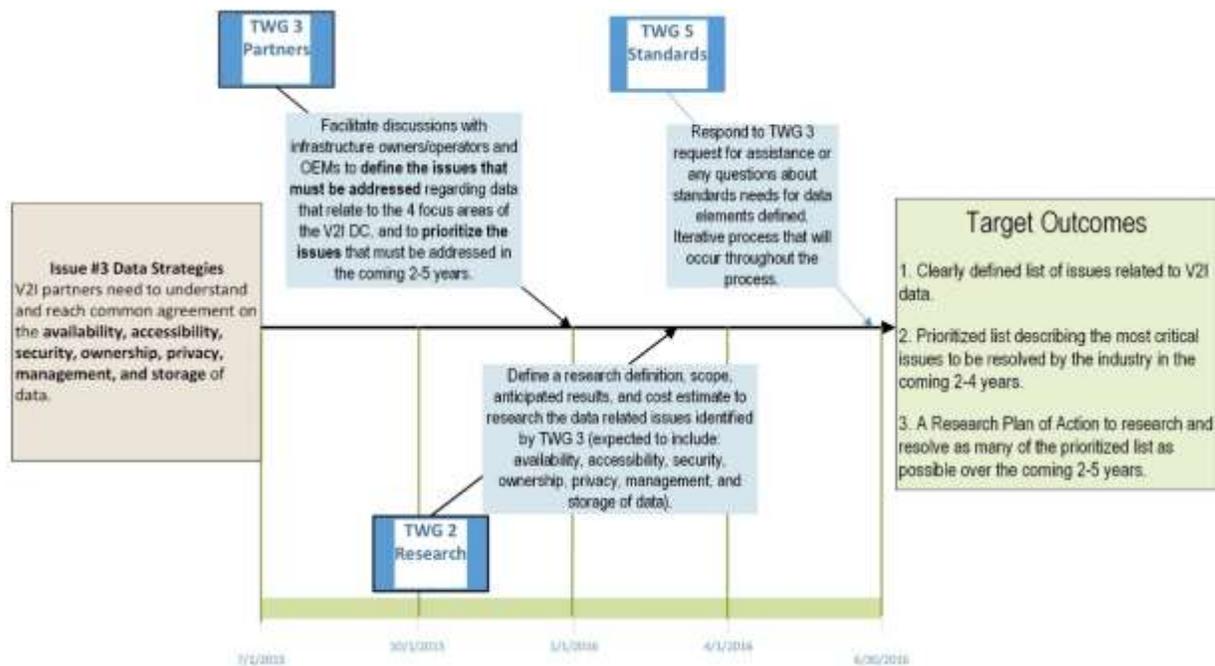


Figure 4 Planned TWG Actions to Address Issue 6: V2I Outreach

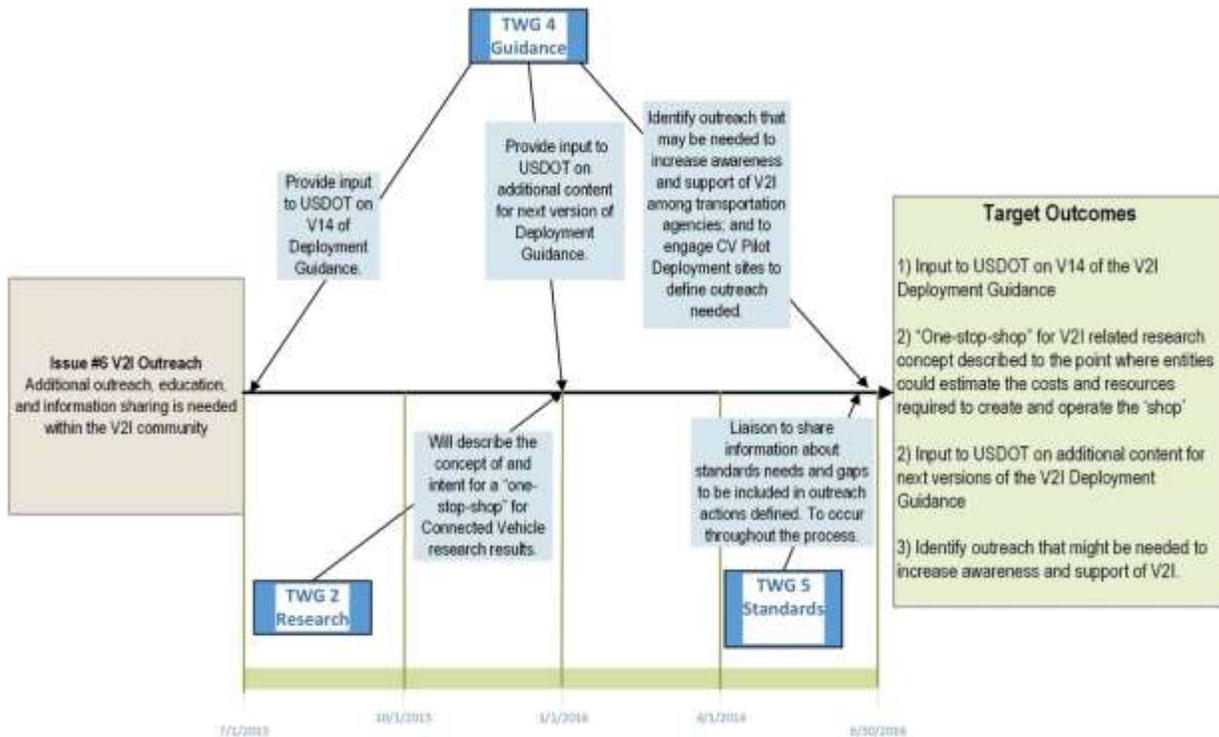
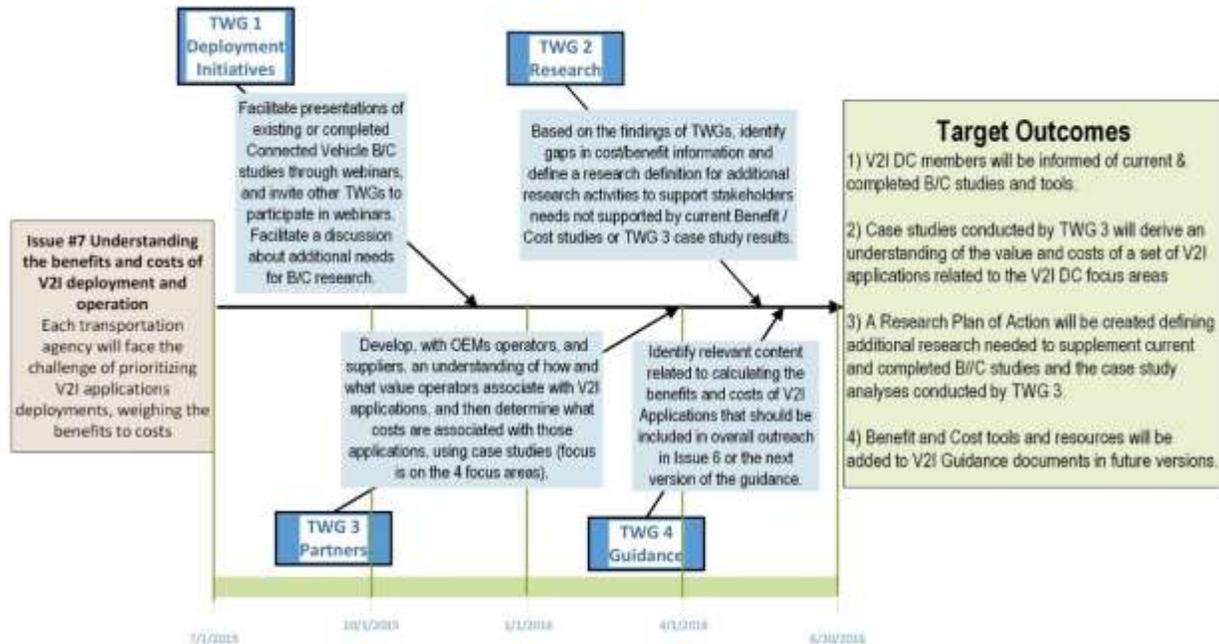


Figure 5 Planned TWG Actions to Address Issue 7: Understanding the Benefits and Costs of V2I Deployment and Operation



The work that has been completed through February 2016 by each of the TWGs since the establishment of their work plans is described in the following sections.

### 3.1. TWG 1: Deployment Initiatives

Since TWG 1 formed in June, the working group members have collaborated together to create a work plan describing the activities to be completed during the initial 12 months of the TWG. Once the work plan was created, the initial activity was to create an online survey of public sector transportation agencies to understand the V2I applications that they have determined are most critical to them. This survey was circulated in October. Below is a brief summary of all the monthly meetings and work completed by TWG 1 since Workshop 1.

The **July 13 webinar** was the first meeting of TWG 1, and the first meeting since the in-person meeting in Pittsburgh. A summary of the Pittsburgh breakout session was reviewed, as was the preliminary Work Plan for TWG 1. The group discussed specific actions related to the Work Plan. The primary work topic of the July webinar was to begin discussing the planned survey to be conducted of public DOTs to understand their selected V2I applications that were included in proposals for V2I deployment. After a brainstorming session, it was agreed that a first draft of the survey would be circulated and discussed during the August webinar.

TWG 1 held a **webinar on August 27** and it was agreed that TWG 1 would meet on the fourth Thursday of each subsequent month. During this webinar, the TWG 1 Work Plan was reviewed and changes highlighted. The primary focus of the August webinar was to review the draft survey of public DOTs about the highest priority V2I Applications. The survey was conducted to address Issue 1: V2X Applications. An additional agenda item discussed was that the next technical topic to be addressed by TWG 1 (after the survey is completed) will be the efforts to address Issue 7 Understanding the Benefits and Costs of V2I Applications.

During the **September 24 webinar**, Bill Legg (Chair of TWG 1) presented a summary of the V2I DC Executive Committee meeting held on September 10. The Executive Committee has established the V2I DC initial focus areas for V2I applications to be: Intersections, Queue Warning Systems, Work Zone Management, and Curve Warnings. Each TWG adjusted their Work Plan to reflect these focus areas. The primary discussion topic of the September webinar was on finalizing the survey of public DOTs. Members of TWG 1 contributed final edits to the questions and helped in identifying the 45 recipients to receive the survey.

During the **October 22 webinar**, Bill Legg informed TWG 1 members that the survey of public DOTs was released on October 19. This was a major effort of TWG 1, and everyone was anxiously waiting to see the results of the survey. Another discussion during the October webinar was an update to members that Bill Legg had been participating in calls with the Chairs of the other TWGs. Collectively, the TWG Chairs have discussed how each TWG will coordinate and collaborate together. As a result, a series of fishbone diagrams have been created to illustrate the role each TWG will play in addressing the four issues that have the largest numbers of TWGs involved.

The **November 16 webinar** of TWG 1 was a topic specific webinar related to Benefit/Cost research in the area of V2I Applications. As noted in the table above, the role of TWG 1 to address Issue 7 was decided to be a facilitator to enable existing Benefit/Cost related projects to present their project intent and progress

to date. TWG 2 will then use the information presented in the webinar as they begin to identify needs for additional Benefit/Cost research. Also, TWG 3 will use the information provided as they define benefits for selected V2I Applications specific to the four focus areas. The November webinar consisted of a presentation by Chris Williges from HDR on the project titled: Desk Reference and Tools for Estimating the Local, Regional and State-wide Economic Development Benefits of Connected Vehicle Infrastructure Deployments.

The **December 4 webinar** of TWG 1 was a topic specific webinar related to Benefit/Cost research in the area of V2I Applications. The role of TWG 1 to address Issue 7 was decided to be a facilitator to enable existing Benefit/Cost related projects to present their project intent and progress to date. TWG 2 will then use the information presented in the webinar as they begin to identify needs for additional Benefit/Cost research. Also, TWG 3 will use the information provided as they define benefits for selected V2I Applications specific to the four focus areas. The December webinar consisted of a presentation by Keith Knappe (AASHTO) and Dominie Garcia (Booz Allen Hamilton) on the project titled: AASHTO Near Term V2I Transition and Phasing Analysis Connected Vehicle Life Cycle Cost Model (LCCM).

The other major activity has been researching and facilitating a series of webinars to share current or past research efforts related to Benefits and Costs of Connected Vehicles. Two webinars were completed in November and December to share details of these activities.

During the **January 28** webinar of TWG 1, Bill Legg reviewed the Benefit / Cost webinars that were conducted during the previous months. Bill then updated members on progress that TWG 1 has made in collaboration with TWG 4 on addressing Issue #14 Federal V2I Policy Statement. The primary topic of the January webinar was the results of the V2I Applications Survey. Dean Deeter presented the results of the survey, and members discussed reactions to the survey results.

### 3.2. TWG 2: Deployment Research

TWG 2 Deployment Research decided that a 'one-stop-shop' for V2I research is a much needed first step before a gap analysis or recommendation of future research. The 'one-stop-shop' will be a large but very valuable effort, most likely occupying a considerable portion of the group's time during the coming year. Two additional issues (Issue 4 and Issue 9) are very large and complex issues that TWG 2 could play a role in defining the needed research (scope, anticipated outcomes, and budget) to be performed in subsequent years to adequately research these issues.

TWG 2 members have chosen to meet every other month by conference call or webinar. Below is a brief summary of the monthly meetings and work completed by TWG 2 since Workshop 1.

The **August 24 conference call** was the first call of TWG 2 and the first meeting since the in-person meeting in Pittsburgh. A summary of the Pittsburgh breakout session was reviewed, as was the preliminary work plan for TWG 2. The group discussed specific actions related to the work plan and members of TWG 2 volunteered themselves to participate in the different actions. The National Operations Center of Excellence agreed to help the TWG 2 Chairs plan for a one-stop-shop for connected vehicle research results.

The **November 2 conference call** updated members on the results of the September V2I DC Executive Committee meeting in September, updated members on how this TWG will collaborate with other TWGs on certain issues, introduced members to a portal for information sharing, and gave members some preliminary information about the November 5, 2015, webinar for all V2I DC members. During this call it was decided that TWG 2 should put their focus on the four issues that require collaboration with other activities. Members volunteered to help with these activities.

The **February 3 call** continued the discussion of the four cross-collaborative issues and the volunteers for these activities. After this call the chairs of TWG 2, the Interim Managing Director for the NOCoE, and V2IDC project staff worked together to outline a plan for creating the one-stop shop for V2IDC research.

### 3.3. TWG 3: Infrastructure Operator, OEM and Supplier Partnerships

TWG 3 is bringing together infrastructure operators, OEMs and suppliers to understand the largest deployment issues and questions from all partners. The TWG is unique and the framework will enable open dialog between all partners in V2I, therefore they will contribute to many issues and collaborate with all of the other TWGs. TWG members have chosen to meet monthly by webinar. Below is a brief summary of the monthly meetings and work completed by TWG 3 since Workshop 1.

The **July 16 webinar** was the first webinar of TWG 3, and the first meeting since the in-person meeting in Pittsburgh. The group was polled on high priority issues to be addressed by TWG 3. The group discussed specific actions related to the work plan.

The **August 18 webinar** featured CAMP's Mike Shulman's presentation on V2I safety applications. The work plan was also discussed by solicitation of group members for identified group activities.

During the **September 21 webinar**, Matt Smith (Chair of TWG 3) presented a summary of the V2I DC Executive Committee meeting held on September 10, 2015. The Executive Committee has established the V2I DC initial focus areas for V2I applications to be: Intersections, Queue Warning Systems, Work Zone Management, and Curve Warnings. Guest speaker Walt Fehr, with USDOT, gave an USDOT ITS JPO update. Several volunteers were identified on the meeting to participate in the two activities in identifying application value and costs, and data issues.

During the **October 19 webinar**, Steve Kuciemba (PB) and Melissa Tooley (TTI) were identified to lead the two activities. Additionally, Matt informed the group how different working group coordinate and collaborate together. Guest speaker Mike Shulman, with CAMP, introduced the Security Certificate Management System (SCMS) to the group.

The **November 20 webinar** featured guest speaker Colin Castle, Michigan DOT, talked about Connected Vehicle data use from Michigan DOT's perspective. Steve Kuciemba (PB) and Melissa Tooley (TTI) briefed group members their rudimentary plans in conducting the two activities of the group.

TWG 3 did not host any full group meetings in December, January or February. Instead, the group conducted several one-on-one and group interviews to gather members' perspectives on value and costs, and data issues of V2I applications. The results from these interviews are being assembled and will be reported to the group members on March 10, from 2:30 – 4:00 pm (Eastern).

### 3.4. TWG 4: Deployment Guidance

TWG 4 Deployment Guidance has the most focused initial charge of all the TWGs. However, because of the importance and breadth of the USDOT Deployment Guidance document, TWG outreach and feedback will actually touch on multiple issues. TWG members have chosen to meet monthly by webinar. Below is a brief summary of the monthly meetings and work completed by TWG 4 since Workshop 1.

The **July 8 webinar** was the first webinar of TWG 4, and the first meeting since the in-person meeting in Pittsburgh. A brief recap was presented of the TWG comments submitted to USDOT regarding the V2I Deployment Guidance document. USDOT was able to address some but not all comments based on the late review in relation to the publication process. Those comments that were not directly addressed in this version will be further discussed by the TWG when the next version of the V2I Deployment Guidance is issued. The TWG also reviewed a summary of the V2I deployment issues presented to the Coalition, plus three additional issues identified by TWG 1 during the June 4-5 workshop. The table presented the level of interest in each issue as it was expressed by each of the TWGs during the workshop. The group reviewed and confirmed the level of interest listed for TWG 4. A draft work plan based on the group's interest in each issues was also presented and discussed.

During the **August 12 webinar**, a recap of the July meeting was provided and actions were reviewed. Discussion continued regarding Issue 6: V2I Outreach, specifically with regard to outreach that may be needed to increase awareness and support of V2I among transportation agencies. Two rounds of input are planned for TWG 4 – one now and another in Q2-2016. The approach for their discussion included:

- Clarify outreach needs
- Review materials available or being developed
- Identify gaps and describe what additional outreach may be needed

The **September 9 webinar** began with a recap of the August meeting and review of actions. A draft summary of TWG 4 discussion regarding Issue 6: V2I Outreach was circulated prior to the meeting and comments were requested back from the group. Discussion began regarding Issue 11: V2I Consumer Messaging. TWG 4 noted in its work plan that it will describe the type of content and guidelines needed for consistent, accurate consumer messaging related to V2I applications. The approach to the discussion included a review of what's currently available from government, academia and private industry, and then a discussion about messages being conveyed. The discussion about messaging focused on those that are:

- Common: Used by all or most
- Supportive: Clear, factual
- Questionable: Confusing, potentially misleading

USDOT also noted during this meeting that the next version of the V2I Deployment Guidance will be delayed and a new publication date is not yet available.

During the **October 14 webinar**, discussion topics and actions from the September meeting were reviewed at the beginning of this meeting. The V2I DC Executive Committee meeting was also summarized for the group, noting that the Coalition will focus in the near-term on applications related to:

- Intersections (signalized and non-signalized)

- End of queue warnings
- Work zone management
- Curve warning systems

USDOT presented an overview of the outreach and training activities underway and planned for the coming year. For future collaboration, TWG 4 will share with USDOT the summaries of its discussions about Issue 6: V2I Outreach and Issue 11: V2I Consumer Messaging. USDOT will continue participating in the TWG 4 monthly meetings and will also share their draft outreach plan with TWG 4 for review and comment. There was additional discussion regarding Issue 11: V2I Consumer Messaging, specifically in relation to messaging about the Chrysler Jeep hack that occurred over the summer.

The **November 18 meeting** included a brief recap of the October meeting and actions was provided. Information was shared about outreach activities and support information from the Connected Vehicle Pooled Fund and the CVRIA. TWG 4 comments regarding the draft summary of Issue 11: V2I Consumer Messaging were discussed. Edits to the summaries for both Issue 11 and Issue 6 will be made and reviewed as appropriate within the Coalition before forwarding to USDOT.

TWG 4 did not host a December meeting. During their **January 20 meeting**, the group began discussing Issue 14: Federal V2I Policy Statement. Initial topics of interest for this policy statement were recapped from a brainstorming session that was held between the TWG 1 and TWG 4 core members on 1/19 and from discussion among TWG 4 during the 1/20 meeting. USDOT also shared additional information about the vision and policy statements that will be included in the V2I Deployment Guidance when it is released. It was noted that the discussion in Issue 14 would continue at upcoming meetings. It was also noted that the summaries of Issue 6 and Issue 11 would be circulated to the other TWG chairs and co-chairs for review and comment.

The **February 10 meeting** included an update on the status of Issue 14: Federal V2I Policy Statement. Since the January meeting a briefing for the issue had been prepared and circulated to the other TWGs. The briefing introduces the nature of the issue, an initial, high-level list of policy topics of interest, and a process for moving forward with addressing the issue. The meeting also included an update on USDOT's development of a V2I outreach plan. The plan outline was presented and discussed. The plan content is being developed and focus groups are tentatively planned to take place during the V2I DC workshop in April.

### 3.5. TWG 5: Deployment Standards

TWG 5 Deployment Standards has a focus that closely aligns to Issue 8: V2I Standards. As the group has met from **July through February**, they have developed a standards context framework drawing to structure the needed and available standards between the vehicles, infrastructure, and roadside units. The context framework has been used by TWG 5 to facilitate discussions about current and needed standards, and to discuss gaps and needs for additional standards. The group has been in communication with USDOT regarding ongoing gap analysis efforts. They have also exchanged information V2I related standards development activities, including NTCIP, SAE and CVRIA. TWG 5 has also identified training on Connected Vehicle standards offered by USDOT's Professional Capacity Building (PCB) program and the Consortium for ITS Training and Education (CITE). As TWG 5 continues their gap analysis, they will also

identify additional standards-related outreach needs. The work will conclude with a summary of standards gaps and recommended action plan for addressing the gaps.

### 3.6. Other V2I DC Work

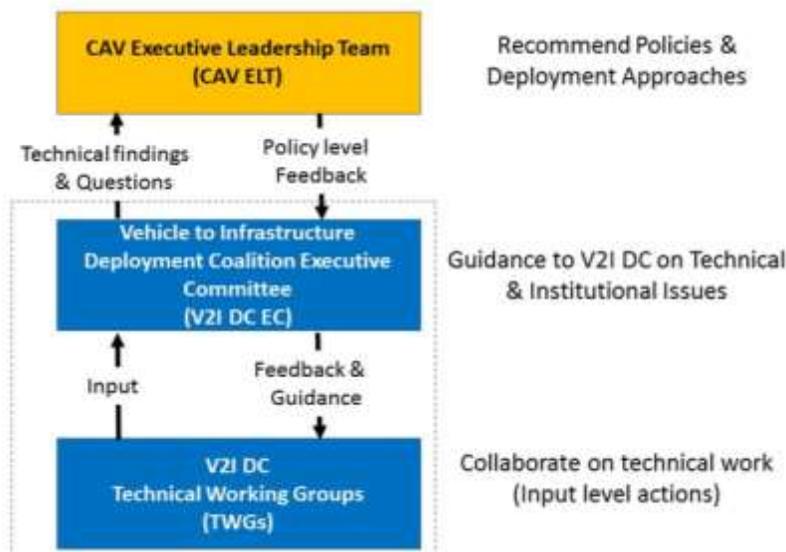
In addition to the work completed by the TWGs, the V2I DC Project Team and Executive Committee have also been working to develop a business plan outlining work for the Coalition beyond June 2016. The V2I DC was initiated through USDOT funding for an initial 18-month time period ending June 2016. The business plan recaps the anticipated and recognized benefits and costs of the initial 18 months, then presents the plan for operations of the V2I DC from June 2016 through June 2021. The business plan describes the need for the V2I DC, the role of the V2I DC, the proposed activities and associated costs for operations from 2016-2021 that would continue Coalition activities.

During the initial 18 months, the primary activities of the V2I DC have been dedicated to addressing deployment issues identified by the Coalition members. These issues are complex and span multiple stakeholder groups, and will not all be resolved in the initial 18 months. Rather, the initial 18 months has been a period where the issues have been discussed and defined and, when appropriate, action plans created to resolve the issues over subsequent years and with outside funding sources not yet identified. Nonetheless, some of the issues are straight-forward enough to enable V2I DC members to resolve in part or totality. These will result in ‘early winners’ to help support V2I stakeholders as soon as early 2016.

Between June 2016 and June 2021, the V2I DC will continue to play a role in tracking and supporting the resolution of V2I related issues. This will likely include a role in helping to identify funding opportunities for the activities needed to resolve the issues properly. The short-term V2I DC role will also include efforts to help align with established training and education services to provide V2I support for stakeholders as needed. V2I DC efforts will also focus on peer exchanges, and providing feedback to pilot deployments and related V2I efforts such as CAMP and VIIC.

Activities identified within the business plan will also support the efforts of the Connected and Automated Vehicle Executive Leadership Team (CAV ELT). The CAV ELT is envisioned as a leadership and advisory

**Figure 6 Interaction between CAV ELT and V2I DC**



resource for the V2I DC. As questions surface within the technical activities of the V2I DC, these questions will be raised to the ELT by way of the V2I DC Executive Committee. Similarly, as the CAV ELT members have technical questions or require research or exploration of topics, they will send requests to the V2I DC TWGs. Figure 1 illustrates this process of interaction between the V2I DC and the CAV ELT. Since the V2I DC was created, the Connected Vehicle stakeholders have come together to cooperate and work together as one

coalition. The business plan defines the activities, projected costs, and funding sources to sustain the V2I DC through 2021, enabling the group of stakeholders to continue to collaborate towards the vision of widespread V2I deployment. Although the business plan includes a high level summary of activities proposed for the short-term period beyond June 2016, the coalition is meeting in person in April 2016. During this time, the TWGs will meet to discuss prospective activities to be performed over the coming years of the coalition. More detailed activities, especially for the initial 12-month period, will then be documented as the 2016-2017 Work Plan for the V2I DC.

#### 4. Next Steps for V2I DC

In the coming weeks, plans will be finalized for hosting Workshop 2 for the full Coalition in April 2016. Following submission of this technical memorandum, the Project Team will continue to work with USDOT and the V2I DC Executive Committee to finalize the proposed business plan and determine next steps for the Coalition. The V2I DC members will also continue to meet periodically through the TWGs as the initial deployment issues continue to be addressed. Following is summary schedule of ongoing Coalition activities planned through June 2016. In addition to these meetings, the Project Team continues to meet periodically to address Coalition business and the Project Team meets monthly with USDOT to report on V2I DC progress.

##### **March 2016**

- 3/9, TWG 4 Guidance Meeting, 11:00-12:30 (Eastern)
- 3/10, TWG 5 Standards Meeting, 2:00-3:30 (Eastern)
- 3/10, TWG 3 Partners Meeting, 2:30-4:00 (Eastern)
- 3/23, TWG 1 Initiatives Meeting, 2:00-3:00 (Eastern)

##### **April 2016**

- 4/6, TWG 2 Research Meeting, 3:00-4:00 (Eastern)
- 4/20-21 V2I DC Workshop 2, Detroit, MI

##### **May 2016**

- 5/12, TWG 5 Standards Webinar, 2:00-3:30 (Eastern)
- 5/18, TWG 4 Guidance Webinar, 11:00-12:30 (Eastern)
- TBD, TWG 3 Partners Webinar, 11:00-1:00 (Eastern)
- 5/25, TWG 1 Initiatives Webinar, 2:00-3:00 (Eastern)

##### **June 2016**

- 6/1, TWG 2 Research Meeting, 3:00-4:00 (Eastern)
- 6/8, TWG 4 Guidance Meeting, 11:00-12:30 (Eastern)
- 6/9, TWG 5 Standards Meeting, 2:00-3:30 (Eastern)
- TBD, TWG 3 Partners Meeting, 11:00-1:00 (Eastern)
- 6/23, TWG 1 Initiatives Meeting, 2:00-3:00 (Eastern)