U.S. Department of Transportation
Intelligent Transportation Systems Program Advisory Committee

Summary of Proceedings
ITS Program Advisory Committee Meeting
December 7, 2016

CONTENTS

1. **General**

    a. The Intelligent Transportation Systems (ITS) Program Advisory Committee (ITSPAC) met December 7, 2016 at the Double Tree Crystal City Hotel, located at 300 Army Navy Drive, Arlington, Virginia 22202.

    b. This document provides a summary of the meeting proceedings. The meeting transcript and other meeting documents are available in the December 7, 2016 section of the ITSPAC website at http://www.its.dot.gov/itspac/index.htm.

2. **Meeting Attendance**

    a. Committee members

    Ms. Sheryl Wilkerson, Vice President, Federal Government Affairs, Michelin North America (Chair)
    Mr. Steve Albert, Director, Western Transportation Institute
    Mr. Scott Belcher, CEO, Telecommunications Industry Association
    Mr. Joseph Calabrese, CEO, Greater Cleveland Regional Transit Authority
    Mr. John Capp, Director, Electric and Control Systems Research and Active Safety Strategic Lead, General Motors Corporation
    Mr. Bob Denaro, Consultant, Intelligent Transportation
    Ms. Debra Johnson, Deputy Chief Executive Officer, Long Beach Transit
    Mr. J. Peter Kissinger, Consultant
    Mr. Scott McCormick, President, Connected Vehicle Trade Association
    Mr. Joe McKinney, Executive Director, National Association of Development Associations
    Ms. Tina Quigley, Regional Transportation Commission of Southern Nevada
    Dr. Raj Rajkumar, Carnegie Mellon University
    Mr. Bryan Schromsky, Director of Technology, Verizon Wireless
    Dr. Susan Shaheen, University of California, Berkeley
    Mr. Kirk Steudle, Director, Michigan Department of Transportation

    b. U.S. Department of Transportation

    Mr. Stephen Glasscock, Designated Federal Officer, ITS Joint Program Office
    Mr. Ken Leonard, Director, ITS Joint Program Office
    Mr. Egan Smith, Managing Director, Its Joint Program Office

    c. Others

    Sheila Andrews, Auto Care Association
    Steven Bayless, ITS America
    Jason Campos, Noblis
    John Craig, Noblis
    Andrew Fosina, Signal Group D.C.

Regina Hopper, ITS America
Michael Land, ITS America
Kathryn McGirk, M + Q
Ian Reagan, IIIHS
Joe Register, Auto Care Association
Madeline Salinas, Harris, Wittshire & Grannis
Al Stern, Citizant
Ron Thaniel, ITS America

3. Meeting Action Items

a. All committee members are asked to review the summary of recommendations provided to the Committee by Mr. Glasscock to ensure that efforts are not being duplicated.

b. All committee members are asked to review the 5-year strategic plan, which will be distributed to everyone when it is released (late December). Members should focus their review on what the ITS JPO is able to do and what its proper role would be. Finally, members are asked to keep in mind special needs, social equity, emergency response and cyber security.

c. With the assistance of the ITS JPO, members should focus on stakeholder engagement and outreach. Who should be brought in that is not now involved and what groups should be focused on?

d. Members should also discuss, within the context of the subcommittees, the idea of developing some type of "portal" to enable technological advancements in ITS to be shared with the states.

e. A survey will be circulated to gather input on speakers that could be invited to future meetings.

f. The ITS JPO will be asked to provide a program update at the next face-to-face meeting.

4. Meeting Agenda

a. Welcome Remarks

b. Opening Remarks

c. Traffic Safety Culture Subcommittee

d. Automation/Interrelationship Between Connected and Automated Vehicles Subcommittee

e. Rural Development Assistance Subcommittee

f. Technology and Active Transportation Subcommittee

g. Discussion of Action Items

5. **Summary of Proceedings**

a. Welcome Remarks

(1) Mr. Glasscock, Committee Designated Federal Officer, welcomed committee members, reviewed meeting "housekeeping" rules, and announced that, Ken Leonard, ITS Joint Program Office Director, and Egan Smith, Managing Director, would both be attending the meeting today. Ms. Wilkerson also noted that members Berg and McKinney could not attend today's meeting.

(2) Mr. Glasscock also informed the committee that committee reappointments, along with new appointments, continue to be processed through the Office of the Secretary of Transportation.

b. Opening Remarks

(1) Ms. Wilkerson, Committee Chairperson, welcomed participants and thanked the ITS JPO for its support and committee members for taking time from their schedules to serve on the committee. She also thanked Mr. Glasscock for preparing the compendium of ITSPAC recommendations that have been made thus far, noting it had been distributed to the full membership a week prior to the meeting.

(2) Ms. Wilkerson and Mr. Glasscock then walked the Committee members through the agenda, noting some minor adjustments due to member travel requirements. Ms. Wilkerson then asked members if anyone had any news or announcements that they would like to share with the members related to ITS.

(3) Ms. Quigley announced that a new partnership has been created in the Las Vegas area called the Nevada Center for Advance Mobility. While the Center addresses all types of transportation, it has emphasized use of new technologies to help solve issues related to pedestrian safety. She noted that they were considering a series of RFIs or possibly even grants to help address a serious pedestrian fatality problem in the state.

(4) Dr. Shaheen announced that she has been working with the ITS JPO on a one-day workshop to be held at TRB in January 2017, with the focus on smart cities, transit and vehicle automation. She encouraged everyone who would be attending TRB to register for the workshop, which will be free of additional charge.

(5) After asking visitors to introduce themselves, Ms. Wilkerson suggested that the co-leaders of each subcommittee present their findings and recommendations to the group. The first subcommittee report, Traffic Safety Culture, was provided by Ms. Johnson and Ms. Quigley.

c. Traffic Safety Culture Subcommittee

(1) Ms. Johnson gave a short introduction to the types of issues the subcommittee looked at; these included the concept of considering the "competing priorities" in transportation, and how those can be addressed through ITS. She then asked Ms. Quigley to describe her experiences in this area in her work as a Transportation Commissioner in southern Nevada.

(2) Ms. Quigley picked up on a topic she had raised earlier regarding her organization's RFI (request for information) about solutions for decreasing pedestrian fatalities. They received a variety of responses from across the world, and they are currently reviewing them. Many of them rely on advanced technologies such as cellphone "apps" and the like; she felt strongly that such an approach would be useful to reduce fatalities and help convince lawmakers that additional funding in this area would be beneficial.

(3) Ms. Johnson agreed and noted that in Los Angeles County, a sales tax was approved that focused efforts on addressing both bicycle and pedestrian crossing safety measures; we thought that was a very successful approach. Mr. Kissinger added that he felt it was very important to change the culture of society relative to safety; we really need encourage our public agencies to allocate resources to support safety in transportation. He also noted that it needs to be personalized so that people realize that so many individuals are losing their lives and are being affected negatively.

(4) Mr. Webb brought up the fact that physical design of roadways can have an important effect on safety, as well as the way that speed limits are determined. He felt that mobility needs to be balanced for all types of users (bicycles, pedestrians, and vehicles).

(5) Ms. Wilkerson asked if the subcommittee members would thus recommend that the Government reallocate funds for safety, especially as it pertains to ITS. Both Ms. Johnson and Ms. Quigley agreed, and also suggested that the group look at what the automobile industry has done in terms of "proactive" safety for its vehicles and users.

(6) Mr. Capp provided an update on the types of safety measures the OEMs have started providing and are considering. He thought that Government organizations like NHTSA, as well as private ones, such as IIHS, can contribute to the effort by standardizing the approach to vehicle safety and by moderating differences in opinion among the manufacturers.

(7) Dr. Rajkumar mentioned that he is affiliated with a national university transportation center (UTC) at Carnegie Mellon University in Pittsburgh; that organization sponsored a safety summit in 2015 and has been doing quite a lot of work in that area recently. He also noted that the city of Pittsburgh was awarded $11 million under a secondary award for Smart Cities to upgrade traffic signals to address pedestrian and bicycle safety.

(8) Mr. Leonard then responded to questions about the JPO's ability to act on many of these recommendations in terms of its legislative mandate. He felt that the landscape had changed recently with the advent of the Smart Cities Program, and that a lot of what has been discussed today could fit under the broader context of "smart cities." He encouraged the Committee to continue to focus on these issues and to make recommendations that could ultimately reduce the number of pedestrian fatalities, especially as it relates to distracted driving.

(9) After reiterating some of the highlights and conclusions made during this session, Ms. Wilkerson asked that the Committee take a brief break, to be followed by a presentation by Mr. Capp regarding the Subcommittee on Automation and the Interrelationship between Connected and Automated Vehicles.

d. Automation and Interrelationship Between Connected and Automated Vehicles Subcommittee

(1) Mr. Capp thanked Mr. Berg, who was unable to attend today's meeting, for helping to develop some of the ideas that the subcommittee discussed. He noted that they began their work by looking at the types of efforts being made by the JPO currently, and how priorities may need to change or resources may need to shift. They used the latest version of the JPO Strategic Plan as a basis for their discussions.

(2) With regard to the strategic planning process, Mr. Leonard and Mr. Smith explained the recent changes made in Departmental thinking in that regard; modal plans are now being done annually, but the strategic plans continue to be formulated every five years.

(3) Mr. Capp continued to focus on the concerns and issues faced by automobile manufacturers as the era of the connected vehicle proceeds; the possible issuance of a connected vehicle NPRM by NHTSA, the advent of the ridesharing services such as Uber and Lyft, and the advent of automated vehicles, which have huge implications in surface transportation. He emphasized that the quickly-changing landscape facing US DOT and the OEMs must influence the next strategic plan's priorities; in addition, these trends and evolving issues may require expansion of some priorities, while others may need to be changed or dropped.

(4) In response to a question from Mr. Denaro regarding the interrelationship between connected vehicles and automated vehicles, Mr. Capp noted that the two needed to be coordinated carefully, and that it may take time before the desired level of

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connectivity is achieved. It may occur primarily in urban areas first, which dovetails with the limited use of the rideshare concept in areas with well-developed communications systems. Mr. McCormick agreed, but felt that the timetable for reaching a minimum level of connectivity could be as far off as 40 years, according to a statistic he had heard lately.

(5) Dr. Shaheen raised the issue of an increase in the use of electric vehicles and how they can be charged efficiently; she also introduced the concept of "geo-fencing," which can limit the ability of electric vehicles to travel to certain areas and allows for access prioritization for others. Ms. Wilkerson agreed and brought up the concept of braking ability for such vehicles and the rise of platooning of freight vehicles.

(6) Mr. Belcher raised a concern about manufacturers of automated vehicles and their dependent subsystems rushing their products to the market without considering how they will interact with other vehicles, something that wider adoption of standards could address. With technologies moving as such a pace, the standards efforts cannot keep up with the demand; is this an area where the Committee can make recommendations?

(7) Mr. Leonard agreed and noted that US DOT is struggling to keep up with these very issues, not just at the JPO, but across all modes. The sheer number of players in the equation makes it that much more difficult to control in a reasonable manner. Mr. Schromsky agreed, saying that the cellular telephone industry is facing many of the same challenges, with technology moving at such a rapid pace, standards do not have a chance to keep up. He continued with an extensive discussion of cyber security and how it could affect connected and automated vehicles, as well as how the cellular telephone industry addresses these same problems.

(8) Mr. Leonard then noted his concerns on a variety of issues the JPO is trying to address, ranging from special needs users, social equity concerns, emergency response, etc. These issues will need to be addressed in the context of automated vehicles, on top of our current focus on mobility, safety and emissions reductions. Mr. Capp agreed and suggested that the Committee focus on prioritizing these issues as a way to help the JPO address them.

(9) Mr. Albert added that with so much happening so quickly in the real world, that perhaps a more pointed effort be made to share information about experiences, both horizontally and vertically. He suggested establishing scanning tours or technical assistance centers to spread the word about successful deployments and the like.

(10) Dr. Shaheen agreed and noted that on top of trying to fill the gaps in the current strategic plan, perhaps the Committee needs to widen out the number of stakeholders who provide input. For example, why not include land developers, who shape the landscape and make decisions about parking and land use, or companies starting up mobility-on-demand services. We need to interface with industries that are not currently part of the conversation in addition to prioritizing missing elements from the

strategic plan. In response, Mr. Smith said he agreed and that the JPO has just recently started to look at different levels of stakeholders that should be a part of the JPO's outreach; he also said the JPO would welcome input from the Committee on the type of outreach that should be done to engage stakeholders.

(11)   To conclude this session of the meeting, Mr. Schromsky reiterated his concern about the importance of cyber security as it relates to connected and automated vehicles. He also asked if the JPO had any initial predictions about how a new administration would address these issues after taking office. Mr. Leonard responded that he too felt that cyber security was getting short shrift in terms attention and budgets; however, he could not speculate if the new administration would prioritize work in that area.

e. Rural Development Assistance Subcommittee

(1) Following the lunch break, Ms. Wilkerson asked Mr. Albert and Mr. Schromsky to report to the committee regarding their discussions in the "Rural Development Assistance" area. Mr. Albert began the session by referring to a document he had drafted and distributed to the Committee. The report, titled "Rural/Local Deployment Assistance Program," proposes a collaboration between US DOT and the National Association of Counties (NACO) to enhance safety and mobility on rural and county roads through ITS. The idea grew out of a rural summit meeting held in September with approximately 115 stakeholders attending.

(2) He continued by quoting a number of statistics regarding the elevated chances of being involved in a fatal vehicle accident in rural areas vs. urban ones (2.5 times higher). His proposal involved making dedicated funding available to small towns and rural areas to carry out measures to reduce those fatalities. He felt that the funding could go to providing the local and county governments with technology deployment assistance and peer-to-peer involvement. These efforts, commonly available in urban areas, are sorely lacking in rural areas.

(3) Mr. Schromsky then discussed his perspective, that of a cellular telephone service provider. He mentioned the need to coordinate efforts related to agri-business, truck and freight interests and law enforcement/emergency services, all of which would benefit from better communications coverage in rural areas. Mr. Albert continued by comparing accident rates on Interstate highways (relatively low) with rural, two-lane roads (much higher).

(4) Mr. McCormick agreed with the premise of the proposal, but was concerned about adoption of the technologies that would be needed to make it work; market penetration and technology adoption rates are much lower in rural areas based on studies he is familiar with. He also noted there is a problem with interactions with wildlife in rural areas, a problem that faces many countries in the developing world.

(5) Mr. Schromsky then discussed new communications technologies that were recently launched, one of which had a rural focus (LTE Rural Access). Another new approach is the broadening of 5G availability to rural areas across the country, though it has not been deployed as of yet.

(6) Mr. Leonard reiterated a point he had made at a previous meeting, having to do with the ATCMTD (Advanced Transportation and Congestion Management Technologies Deployment Initiative) sponsored by FHWA. These grants are by law required to be technologically and geographically diverse. Thus, they are a good opportunity to fund just what is being proposed here today. Applicants must, of course, provide a compelling case for these grants, and the funds are quite competitive. On the other hand, he noted that perhaps with a suggestion to that effect by the Committee, Congress could set aside a certain portion of these grants for use in rural areas only.

(7) A number of committee members agreed and felt that idea could use additional thought. Mr. Belcher then raised the issue of turnover of vehicles in rural vs. urban areas. A lower rate could mean a much longer time period for all vehicles to have connected technologies, which would reduce effectiveness of the effort. Mr. Albert thought the rate was longer in rural areas, but that more needs to be done to confirm that.

(8) To wrap up this portion of the discussion, both Mr. Schromsky and Mr. Albert talked about the importance of involving rural-focused public safety organizations in the mix; the issue of safety and reductions in fatalities can make a strong case for utilization of, and funding for, these technologies in rural areas.

f. ITS Technology and Active Transportation Subcommittee

(1) Following the break, Ms. Wilkerson asked Mr. McCormick to report on what was discussed by the Technology and Active Transportation subcommittee. He responded by detailing the discussions he and Mr. Belcher had had on the DSRC spectrum and how it should be protected. He stated that some of testing is still taking place in Ann Arbor, MI in addition to testing being done by the FCC.

(2) Mr. McCormick then asked Mr. Leonard if he thought the Committee should recommend frequency allocation especially now in light of the fact that a new Secretary of Transportation will be appointed soon. Mr. Schromsky agreed and offered to look at the previous recommendation to see if it needed any word-smithing.

(3) Mr. Schromsky and Mr. McCormick continued the discussion in terms of available communications technologies by describing the maturation level of 5G cellular service, as well as when it may come into common use. Dr. Rajkumar asked if the 5G service would be in addition to or, a replacement for, DSRC; both Mr. Schromsky and Mr. McCormick replied that it had not been determined at this point.

(4) Another important aspect of the concerns raised revolved around automated vehicles. Mr. Schromsky made the point that with automated vehicles, communications capabilities are going to increase exponentially, and that today's technologies have a "ceiling" and can only provide a limited amount of connectivity. A new generation of capabilities is going to be necessary to realize the concept of truly connected vehicles.

(5) Mr. McCormick continued the discussion by turning to funding and deployment issues; he noted that Mr. Leonard had provided the subcommittee with a lot of background on funding issues, but felt that there was a lack of understanding across the Committee in terms of what a new administration would be considering in terms of funding. Mr. Leonard indicated that that is unknown at this time, but currently there is talk of Congress releasing additional funds to US DOT in April of 2017. Mr. McCormick continued that it would be helpful, from the Committee's perspective, for them to know if the new administration would be placing an emphasis on strictly physical infrastructure, or if additional interest has been show on a V2I component (in addition to the V2V work already ongoing).

(6) Mr. Leonard reiterated that the JPO had focused a lot of attention on V2V over the past few years, but that some additional work in V2I and other areas such as V2P had been accomplished recently. He went on to encourage the Committee to comment on or provide any insights into any V2I strategies they thought were appropriate. Mr. Steudle brought up a point made earlier in the day about the speed of technological change in transportation; he felt it was paramount for the JPO to acknowledge that solutions developed earlier may not work in today's world. Mr. Leonard wholeheartedly agreed, and added that the evolution of connected vehicles to smart cities provides a good illustration of the speed at which changes in technology are reflected in the evolution of US DOT's deployment activities.

(7) Mr. McCormick stated that, until NHTSA issues the DSRC NPRM, he felt it would be difficult for the Committee to add any more on either funding or deployment issues. Mr. Kissinger, however, pointed out that, with a new Secretary coming to the Department soon, it would behoove the Committee to encourage additional funding to focus on these issues, especially in V2I, where substantial investments have already been made.

(8) Mr. McCormick closed this portion of the discussion by recommending names of speakers whom the Committee may wish to invite to a future meeting. He stated that he had asked Mr. Kissinger earlier if would consider doing so, and also recommended representatives such organizations as AAA, APTA, and the League of American Wheelmen (bicyclists). Dr. Shaheen added that she felt public transportation was important, thus she is suggesting Linda Bailey (National Association of City Transportation Officials [NACTO]).

(9) Before discussing the action items generated at the meeting, Ms. Wilkerson asked that the activity timeline be projected so that the membership could be aware of coming

deadlines. In terms of a the Committee submitting an advice memorandum, Ms. Wilkerson asked Mr. Glasscock if they were required to do this; Mr. Glasscock replied that it was not required, but in the past, Committees have submitted them. They were generally brief and described in general terms what had been discussed. Ms. Wilkerson said she thought it made sense to provide such a memorandum this year, especially in light of the fact that a new Secretary of Transportation would be starting soon. Mr. Belcher agreed, and thought a succinct advice memo would be in order, most likely to be delivered in the February 2017 timeframe.

(10)   The committee members agreed, and Ms. Wilkerson asked for volunteers who could draft an outline for the memorandum; Mr. McCormick offered to assist, as did Ms. Quigley. Since he had drafted such a memo in past years, Mr. Denaro was added to the list of volunteers as well. Ms. Wilkerson suggested that a draft be circulated among committee members in late January, with the goal of mid-February for a final to Mr. Glasscock.

(11)   In terms of future meetings and/or conference calls, Ms. Wilkerson suggested the group try to schedule a conference call for the first week of February. The membership agreed and then discussed the next face-to-face meeting. Ms. Quigley suggested the final week of March, since that would coincide with spring break.

(12)   Ms. Wilkerson also asked that the members of the various subcommittees follow up on the discussions that took place today and meet as necessary to focus on two or three topics that could be brought back to the Committee for the next meeting.

(13)   A brief discussion of the new Automated Vehicle Advisory Committee then took place. Mr. Leonard noted that if one of the ITS PAC members was asked to be on that committee, they would have to resign from this one. Dr. Rajkumar suggested that once the new committee is established, that a representative be asked to attend a future ITS PAC meeting to share information and recommendations.

g. Discussion of Action Items

Ms. Wilkerson then reviewed the following action items:

(1) All committee members are asked to review the summary of recommendations provided to the Committee by Mr. Glasscock to ensure that efforts are not being duplicated.

(2) All committee members are asked to review the 5-year strategic plan, which will be distributed to everyone when it is released (late December). Members should focus their review on what the ITS JPO is able to do and what its proper role would be. Finally, members are asked to keep in mind special needs, social equity, emergency response and cyber security.

(3) With the assistance of the ITS JPO, members should focus on stakeholder engagement and outreach. Who should be brought in that is not now involved and what groups should be focused on?

(4) Members should also discuss, within the context of the subcommittees, the idea of developing some type of "portal" to enable technological advancements in ITS to be shared with the states.

(5) A survey will be circulated to gather input on speakers that could be invited to future meetings.

(6) The ITS JPO will be asked to provide a program update at the next face-to-face meeting.

6. Adjourn

Chairperson Wilkerson thanked committee members for their participation and adjourned the meeting at 3:15 pm.

We certify, to the best of our knowledge, that the foregoing summary of proceedings is accurate and complete.

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