



ITS Program Advisory Committee

Minutes of March 27 – 28, 2013 Meeting

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1. General

- a. The Intelligent Transportation Systems (ITS) Program Advisory Committee (ITS PAC) met on March 27 to 28, 2013, at the Courtyard Marriott Capitol Hill / Navy Yard Hotel, Washington, DC.
- b. These minutes provide a high-level summary of the meeting proceedings and lists meeting action items. For details of the proceedings, please refer to the meeting transcript that is available in the “March 27 – 28, 2013” section of the ITS PAC webpage at <http://www.its.dot.gov/itspac/index.htm>. For easy reference, the transcript includes a table of contents with hyperlinks to meeting agenda topic headings within the document. Also available at the website are copies of the meeting presentations and other ITS PAC-related documents.

2. Meeting Attendance

- a. Committee members present:

Mr. Robert Denaro, Private Industry Consultant

Mr. Stephen Albert, Director, Western Transportation Institute, Montana State University

Mr. Scott Belcher, President and CEO, Intelligent Transportation Society of America

Mr. Roger Berg, Vice President of Wireless Technologies, DENSO North American Research Laboratories

Mr. Joseph Calabrese, CEO, Greater Cleveland Regional Transit Authority

Mr. John Capp, Director of Global Active Safety Electronics, General Motors Corporation

Ms. Paula Hammond

Mr. Steve Kenner, Global Director of Automotive Safety, Ford Motor Company

Mr. Ronald Kirby, Director of Transportation Planning, National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments

Mr. J. Peter Kissinger; President and CEO, AAA Foundation for Traffic Safety

Dr. Hans Klein, Associate Professor, School of Public Policy, Georgia Institute of Technology, Committee Vice Chairman

Mr. Scott McCormick, President, Connected Vehicle Trade Association

Dr. Raj Rajkumar, Department of Computer and Electrical Engineering, Carnegie Mellon University

Mr. Brian Schromsky, Director, Federal Government and Public Safety, Verizon Wireless

Mr. Anton Steenman, Vice President, Intel Architecture Group and General Manager, Intelligent Systems Group

Mr. George Webb, County Engineer, Palm Beach County, Florida

- b. Others present:

Mr. Greg Winfree, Deputy Administrator, Research and Innovative Technology Administration (RITA), U.S. Department of Transportation (by teleconference)

Mr. Ken Leonard, Director ITS Joint Program Office, RITA
Mr. Nathaniel Beuse, Associate Administrator for Rulemaking, National Highway Traffic Safety Administration (NHTSA)
Ms. Valerie Briggs, Team Lead, Knowledge and Transfer Policy, ITS JPO
Mr. Walton Fehr, Program Manager, Systems Engineering, ITS JPO
Mr. Charles Glass, Telecommunications Specialist, National Telecommunications, and Information Administration (NTIA)
Mr. Stephen Glasscock, Program Analyst, ITS JPO
Mr. Tim Johnson, Director of Crash Avoidance and Electronic Controls Research, NHTSA
Mr. Tim Klein, Senior Policy Advisor, RITA
Mr. Bob Kreeb, Chief, Intelligent Technologies Division, NHTSA
Mr. Mike Lukuc, Program Manager, Intelligent Technology Research Division, NHTSA
Mr. Andreas Mai, Director of Product Management Smart Connected Vehicles, Cisco Systems
Mr. Dan Smith, Senior Associate Administrator, Vehicle Safety, NHTSA
Mr. Carlos R. Vélez, Jr., Project Manager, Citizant, Inc.

3. Meeting Action Items

- a. Vice Chairman Klein will set up a Yahoo Groups listserv for the committee. Participation in the listserv will be voluntary.
- b. Chairman Denaro will send members a template for the subcommittee reports on the end-of-year advice memorandum by March 29.
- c. Subcommittees will finalize the first drafts of their memorandums, coordinate them with other members, and submit them to Chairman Denaro by April 30.
- d. Vice Chairman Klein will take the lead in preparing and submitting the first draft of the spectrum memorandum to Chairman Denaro by April 19.
- e. Mr. McCormick will take the lead in preparing and submitting the first draft of the NHTSA decision making memorandum and input on expanding the 2014 NHTSA decision from V2V to V2X for inclusion in the end-of-year memorandum to Chairman Denaro by April 30.
- f. Chairman Denaro will take the lead, with assistance from members Berg and Steenman, in preparing the first draft of strategic planning input to the ITS JPO by April 30, with the goal of finalizing a final draft by early summer.
- g. Vice Chairman Klein will take the lead, with assistance from the Market-Driven Adoption Strategy subcommittee, in preparing and submitting the first draft of input for the deployment initiatives report to Chairman Denaro by September 15.

- h. Mr. Glasscock will send a Doodle poll to committee members by April 5 to determine best date for an August meeting.

4. Meeting Agenda

Day 1 – March 27

- a. Welcome Remarks by Research and Innovative Technology Administration (RITA) Deputy Administrator, Greg Winfree, and ITS JPO Director, Ken Leonard
- b. Introductions of Tim Johnson, Nat Beuse, and Dan Smith
- c. Opening Remarks by Committee Chairman, Bob Denaro and Committee Vice Chairman, Dr. Hans Klein
- d. Presentation: NHTSA 2013 Decision
- e. Presentation: Safety Pilot Model Deployment Update
- f. Spectrum Presentation and Discussion
- g. Request for Advice by Ken Leonard

Day 2 – March 28

- h. Presentation: The Internet Cars: A Catalyst to Unlock Benefits of Transportation
- i. Presentation: In Favor of ITS PAC Advocacy of Connected Vehicle Rulemaking
- j. Subcommittee Report Outs and Discussion
- k. 2013 Advice Memorandum Discussion and Wrap-up
- l. Adjourn

5. Summary of Proceedings

Day 1 – March 27

- a. Welcome Remarks by Research and Innovative Technology Administration (RITA) Deputy Administrator, Greg Winfree, and ITS JPO Director, Ken Leonard.
 - (1) Stephen Glasscock, the committee Designated Federal Official, called the meeting to order, reminding participants that the meeting was open to the public, was being audio recorded, and that committee behavior is governed by the Federal Advisory Committee Act. Mr. Glasscock turned control of the meeting over to Mr. Winfree.

- (2) Mr. Winfree welcomed committee members, emphasizing that the committee's valued commentary and advice is very much appreciated at a pivotal time for the ITS Research Program. Mr. Winfree mentioned also that a Mexican delegation, including the Mexican Secretary of Transportation and Ambassador to the U.S., that visited U.S. DOT the previous day and expressed strong interest in applying ITS technologies in their country, and U.S. DOT may seek the ITS PAC's advice on aspects of ITS cooperation with Mexico.
 - (3) Chairman Denaro introduced Mr. Leonard as the new ITS JPO Director. In his remarks, Mr. Leonard stated that his background in transportation came from the Federal Motor Carrier Safety Administration and, before that, he had been with the Federal Aviation Administration working on NextGen and with their Joint Program Office. He added that he had opportunities to work with Federal advisory committees at FAA and is extremely grateful to have such a qualified advisory committee to assist the ITS Joint Program Office in its important work.
- b. Introductions of Tim Johnson, Nat Beuse, and Dan Smith. Chairman Denaro invited Tim Johnson and Nat Beuse to introduce themselves.
- (1) Tim Johnson is Director of Crash Avoidance and Electronic Controls Research at NHTSA. Mr. Johnson stated that his office carries out all V2V multi-track research programs.
 - (2) Nat Beuse is Associate Administrator for Vehicle Safety Research at NHTSA, but, until recently, managed NHTSA's crash avoidance rulemaking.
 - (3) Dan Smith is Senior Associate Administrator for Vehicle Safety at NHTSA.
- c. Opening Remarks by Committee Chairman, Bob Denaro and Committee Vice Chairman, Dr. Hans Klein.
- (1) Chairman Denaro outlined the following topics that would be the focus of the committee's work during the meeting:
 - (a) The pending NHTSA 2013 rulemaking on connected vehicle technologies.
 - (b) The FCC notice of proposed rulemaking (NPRM) that would allow sharing of the 5.9GHz spectrum with unlicensed users.
 - (c) Request for specific advice from ITS JPO Director, Ken Leonard.
 - (d) End-of-2013 memorandum of advice to the Secretary.

- (2) Vice Chairman Klein emphasized that the requirements for successful ITS technology implementation and deployment should be a common theme across the work of the subcommittees.
- (3) Chairman Denaro turned the meeting over to Mr. Smith for a presentation on the NHTSA 2013 decision-making process.

d. Presentation: NHTSA 2013 Decision

- (1) Mr. Smith described NHTSA's major functional organization and the subject areas that are addressed during the rulemaking process.
- (2) Mr. Smith briefly addressed NHTSA's two major functional areas: behavioral safety and vehicle safety. Behavioral safety encompasses areas such as drunk driving issues (impaired driver) and seatbelt issues (occupant protection) while vehicle safety area addresses not only rulemaking, but also vehicle safety research, enforcement, and statistics and analysis.
- (3) With respect to rulemaking, Mr. Smith described it as a very deliberative process that gives all interested parties an opportunity to comment.
- (4) Mr. Smith emphasized that the NHTSA decision could range from deciding whether to go to rulemaking, do additional research, or a proposed rule combination.
- (5) The NHTSA rulemaking work is divided into various subject areas to allow an understanding of all facts salient to a decision; the current state of the art, whether policy or technology; and the issues that remain open for resolution. Rulemaking teams develop recommendations to NHTSA senior management about whether to proceed to rulemaking or whether there still exist gaps that must be filled.
- (6) NHTSA's plan is to complete its work by late summer so that the potential decision can be coordinated within NHTSA, OST, and RITA in time to announce the rulemaking by the end of 2013.
- (7) Following a question and answer period, Chairman Denaro introduced Mr. Mike Lucas for an update on the Safety Pilot Model Deployment.

e. Presentation: Safety Pilot Model Deployment Update

- (1) Mike Lucas presented a brief update on the Safety Pilot Model Deployment of Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) safety applications being conducted by the University of Michigan Transportation Research Institute at Ann Arbor, MI.
- (2) Mr. Lucas's presentation included the following major points:

- (a) The model deployment's first of two six-month phases ended August 20, 2013. Phase 2 began during the weekend of March 23 – 24 with 63 new drivers.
- (b) The major change between the two phases is that phase two includes over-the-air security credential management. Sixteen vehicles are requesting and receiving batches of certificates over the air, and the remaining vehicles are circulating five-minute certificates, instead of one big certificate.
- (c) Eight of the vehicles are sending 3G cellular requests for certificates and receiving certificates from the Security Credential Management Entity in Oak Ridge, and eight are sending requests through DSRC and roadside equipment.
- (d) Interactions were at the level expected, but warnings were somewhat higher than had been predicted. The Volpe National Transportation Systems Center, the independent evaluator, as well as the Crash Avoidance Metrics Partnership (CAMP) are performing separate analyses to understand the causes of some of the false-positives and what percentage were good alerts and what percentage were not. Mr. Lucas concluded by stating that a report on these analyses will be completed by the NHTSA 2013 decision.

f. Spectrum Presentations

Spectrum Presentation: Technical Aspects

- (1) Mr. Fehr stated that the FCC NPRM on sharing of the 5.9 GHz spectrum by unlicensed users was not just a “spectrum grab,” but also a much broader wireless industry plan to use the 5 GHz band to service the next generation of WiFi technology, allowing device makers and device users to more fully use the capabilities this new technology.
- (2) Much work has been going on in “the background” in the wireless industry to develop the next generation of WiFi, and, consequently, to identify a portion of spectrum that will fully use the capability of the new service definition.
- (3) The wireless industry has identified the 5 GHz band as best suited to the new WiFi technology.
- (4) Mr. Fehr described the technological implications of potential spectrum sharing and concluded with a question and answer period.

Spectrum Presentation: Policy and Process Activities

- (5) Mr. Klein stated that, because 5.9 GHz spectrum sharing is a “hot” political topic, it is important that U.S. DOT be accurate and consistent with respect to its position on the criticality of DSRC, which he summarized with the following points:

- (a) The 5.9 GHz spectrum, as currently allocated, is uniquely capable of supporting safety applications that could potentially prevent or reduce the severity of up to 80% of vehicle crashes involving unimpaired drivers.
 - (b) Related research and development continues to be a significant investment and high priority for U.S. DOT.
 - (c) NHTSA is scheduled to make decisions on future requirements for related technology on light vehicles in 2013 and heavy vehicles in 2014.
 - (d) U.S. DOT welcomes the opportunity to work with NTIA and FCC to resolve the spectrum sharing issue.
- (6) Mr. Klein discussed major FCC actions of the past 14 years that demonstrate the long history DSRC has with the ITS Program and several DSRC-related actions that are still before the FCC for action.
- (7) Mr. Klein also discussed the following topics related to DSRC and the “spectrum crunch”:
- (a) The “drivers” – a March 2010 National Broadband plan and a July 2012 report on “Freeing up Spectrum for Wireless Broadband” by the President’s Council of Advisors on Science and Technology.
 - (b) U.S. DOT technical work and cooperation with NTIA.
 - (c) The FCC NPRM that would allow unlicensed users to operate in the 5.9 GHz spectrum.
 - (d) Plan for preparing, coordinating, and submitting a U.S. DOT senior-level letter to FCC specifying the Department’s policy positions and concerns on the NPRM and how U.S. DOT will support the next phase of NTIA action on DSRC.
- (8) In conclusion, Mr. Klein discussed the following next steps:
- (a) With stakeholders, perform technical work on the feasibility of spectrum sharing approaches.
 - (b) Coordinate with NTIA to ensure that the modeling and test results are included in the FCC docket.
 - (c) Comment on docketed comments, if allowed.
 - (d) Per MAP-21 requirement, develop an open DSRC implementation plan and report to Congress by October 1, 2015.

g. Presentation: National Telecommunications and Information Administration (NTIA) Spectrum Allocation Process

Vice Chairman Klein introduced Robert Glass for a presentation on the NTIA spectrum allocation process. Mr. Glass discussed the following major points:

- (1) NTIA represents Federal agencies in spectrum issues both domestically and internationally.
- (2) Regardless of the technical aspects related to spectrum allocation, the issue also is legal, legislative, and very political.
- (3) It is not a matter of whether or not spectrum in the 5.9 GHz range will be allocated to non-licensed users, but of how the allocation will be achieved.
- (4) NTIA and the FCC are mandated by legislation to study the spectrum sharing issue.
- (5) An FCC NPRM on the issue will be published “any day.”
- (6) NTIA will be involved in the FCC NPRM process, ensuring that the technical aspects of sharing are considered.
- (7) Once the NPRM is published, the usual process timeline includes six months for FCC reply comments. For technical, detailed, and controversial issues such as spectrum sharing, a three- to six-month extension is likely. This normally would be followed within another six months to one year by the issuance of a report and order (R & O) finalizing the rulemaking. However, the spectrum issue is incredibly political, so the NPRM process may not follow the normal timelines.
- (8) There is an international dimension to spectrum sharing to the extent that DSRC may be impacted along the borders by unlicensed use of the band by non-U.S. cellular companies.
- (9) Mr. Glass concluded with a question and answer period.

h. Committee Spectrum Discussion

Vice Chairman Klein facilitated a committee discussion on the spectrum sharing issue. The discussion produced the following results:

- (1) There is committee consensus that it should address this issue in its advisory role to U.S. DOT.
- (2) Because of the impending FCC NPRM on this issue, the ITS PAC should not wait to comment on the issue in its end-of-2013 advice memorandum to the Secretary, but, instead, should comment as soon as possible in a separate memorandum.

- (3) The committee's advice should include a recommendation that U.S. DOT request automobile and wireless industry technical experts collaborate on a study of the feasibility of spectrum sharing.
 - (4) Until it can be demonstrated that spectrum sharing is feasible, the 5.9 GHz spectrum must be protected, not only because of the potential safety benefits, but also because of the demonstrated high public acceptance of the associated connected vehicle technology.
 - (5) The committee's advice should address also timing and urgency with respect to deployment.
 - (6) A subcommittee consisting of Vice Chairman Klein and members Belcher, Berg, and Capp will draft the spectrum advisory memorandum that will be addressed to the RITA Deputy Administrator. The draft will be coordinated with other committee members as soon as possible.
- i. Request for Advice: ITS JPO Director, Ken Leonard

Mr. Leonard requested input from the ITS PAC for the following reports that the ITS JPO must submit to Congress:

- (1) Annual Secretary's report to Congress on ITS PAC recommendations.
 - (a) This report is due to Congress by February 1 of each year.
 - (b) Mr. Leonard requested that the committee submit its advice memorandum to the Secretary, through the ITS JPO, in December.
- (2) ITS Strategic Research Plan
 - (a) This is a five-year plan. The ITS Program is in the fourth year of the current five-year plan.
 - (b) The ITS JPO currently is soliciting comments via IdeaScale on themes for the FY 15 to FY 19 Strategic Plan. The ITS JPO is looking for input on these and any additional themes.
 - (c) Mr. Leonard stated that at the next ITS PAC meeting he would like the committee's input on the strategic planning process and themes, and on any other strategic planning areas.
- (3) ITS Deployment Incentives Report

- (a) MAP-21 mandates that the Secretary develop "...a detailed and comprehensive plan that addresses the manner in which incentives may be adopted, as appropriate, through the existing deployment activities carried out by surface transportation modal administrations."
- (b) There is no Congressional due date on a report on this topic.
- (c) Mr. Leonard stated that the report would be developed over the next year, adding that he would like the committee's input on ITS deployment incentives from a very broad perspective. There are a variety of potential incentives, including those to help create private sector markets; intellectual property incentives; tax incentives for the consumer, for the commercial motor vehicle operator, for the OEMs; etc. Incentives also can be addressed in terms of what incentivizes states, localities, consumers, drivers, etc.
- (4) V2V and V2I Communications Systems Deployment Report
- (a) MAP-21 mandates that the Secretary submit a report to designated committees of the Senate and the House of Representatives that--
- Defines a recommended implementation path for dedicated short-range communications technology and applications.
 - Includes guidance on the relationship of the proposed deployment of dedicated short-range communications to the National ITS Architecture and ITS Standards.
 - Ensures competition by not preferencing the use of any particular frequency for vehicle to infrastructure operations.
- (b) This report is due October 1, 2015 and is "spectrum-agnostic."
- (c) Discussion and decision on whether and how the committee would address this requirement was postponed until the Day 2 session.

Day 2 – March 28

j. Call to Order and summary of Deliverables

- (1) Vice Chairman Klein called the Day 2 meeting to order and summarized the day's agenda. He stated that he will set up a Yahoo Groups listserv for the committee, adding that participation in the listserv would be voluntary.

(2) Chairman Denaro summarized the committee's deliverables that would be discussed in more detail at the end of the day:

(a) End-of-year advice memorandum to the Secretary

(b) Spectrum sharing advice memorandum

(c) NHTSA 2013 decision making advice memorandum

(d) ITS 2015 – 2019 Strategic Plan development input

(e) ITS Deployment Incentives Report input

(f) V2V and V2I Communications Systems Deployment Report input

k. Presentation: The Internet of Cars: A Catalyst to Unlock Benefits of Transportation

Chairman Denaro introduced Andreas Mai, who made a presentation on how the evolution of connected vehicles (the "Internet of Cars") will impact the societal benefits of transportation.

l. Presentation: In Favor of ITS PAC Advocacy of Connected Vehicle Rulemaking

Mr. McCormick made a presentation recommending that the committee's NHTSA decision-making memorandum strongly advocate for expanding the 2014 decision from V2V to V2X and for accelerating the rulemaking.

m. Subcommittee Report Outs and Discussion

Each subcommittee reported on the progress of its deliberations, including the major issues it is addressing and its anticipated recommendations.

n. End-of-2013 Advice Memorandum Discussion and Wrap-up

The committee reached consensus on the following actions:

(1) Chairman Denaro will send members a template for the subcommittee reports on the end-of-year advice memorandum by March 29.

(2) Subcommittees will finalize the first drafts of their memorandums, coordinate them with other members, and submit to Chairman Denaro by April 30.

(3) Vice Chairman Klein will take the lead in preparing and submitting the first draft of the spectrum memorandum to Chairman Denaro by April 19.

- (4) Mr. McCormick will take the lead in preparing and submitting the first drafts of the NHTSA decision making memorandum and input to the end-of-year memorandum on expanding the 2014 decision from V2V to V2X to Chairman Denaro by April 30.
- (5) Chairman Denaro will take the lead, with assistance from members Berg and Steenman, in preparing the first draft of strategic planning input to the ITS JPO by April 30, with the goal of finalizing a final draft by early summer .
- (6) Vice Chairman Klein will take the lead, with assistance from the Market-Driven Adoption Strategy subcommittee, in preparing and submitting the first draft of input for the deployment initiatives report to Chairman Denaro by September 15.
- (7) Chairman Denaro recommended that the committee “table” a decision on preparing input that Mr. Leonard requested on the V2V and V2I Communications Systems Deployment Report in order to consider how the committee’s other reports might address the applicable issues. Director Leonard agreed.
- (8) The committee reached consensus on holding its next meeting in August. Mr. Glasscock will send out a Doodle poll by April 5 to determine the best date.

o. Adjourn

The meeting adjourned at 3:37 p.m.

We certify, to the best of our knowledge, that the foregoing minutes are accurate and complete.

Ken Leonard
Director, Intelligent Transportation
Systems Joint Program Office
Research and Innovative Technology
Administration
U.S. Department of Transportation

Robert P. Denaro
Committee Chairman