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

ITS Program Advisory Committee Meeting
February 24, 2010

Meeting Minutes

March 23, 2010

CONTENTS

1. General

a. A meeting of the Intelligent Transportation Systems (ITS) Program Advisory Committee (ITSPAC) was held by Web conference on February 24, 2010.

b. These minutes provide a summary of the meeting proceedings. The detailed meeting transcript, the presentation slides, and any other documents made available to or prepared for or by the ITSPAC for the meeting are available for public inspection and copying in the ITSPAC Website at http://www.its.dot.gov/itspac/index.htm.

2. Meeting Participants

a. ITSPAC Members, in alphabetical order:

Mr. Steve Albert; Director, Western Transportation Institute
Mr. Joe Calabrese; Director, Greater Cleveland Regional Transit Authority
Ms. Robin Chase; Founder & CEO, Meadow Networks
Mr. Robert Denaro; Vice President, NAVTEQ Corporation (Committee Vice Chairman)
Mr. Adam Drobot; Chief Technology Officer & President of Advanced Technology Solutions, Telcordia
Ms. Ann Flemer; Deputy Executive Director, Policy; Metropolitan Transportation Commission; Oakland, California
Mr. Jack Lettiere; President, Jack Lettiere Consulting
Ms. Janette Sadik-Khan; Commissioner, New York City Department of Transportation
Mr. Kirk Steudle; Director, Michigan Department of Transportation
Dr. Joseph Sussman; JR East Professor, Department of Civil and Environmental Engineering and Engineering Systems Division; Massachusetts Institute of Technology (ITSPAC Committee Chairman)
Mr. Gary Toth; Senior Director, Transportation Initiatives; Project for Public Spaces
Mr. Pravin Varaiya; Nortel Networks Distinguished Professor, Department of Electrical Engineering and Computer Sciences; University of California, Berkeley
Mr. James Vondale; Director, Automotive Safety Office, Sustainability, Environmental and Safety Engineering; Ford Motor Company

b. Others Present:

Mr. Peter H. Appel; Administrator, Research and Innovative Technology Administration, U.S. Department of Transportation (U.S. DOT)
Dr. Robert L. Bertini; Deputy Administrator, Research and Innovative Technology Administration, U.S. DOT
Ms. Shelley Row; Director, ITS Joint Program Office, Research and Innovative Technology Administration, U.S. DOT
Mr. John Augustine; Deputy Director, ITS Joint Program Office, Research and Innovative Technology Administration, U.S. DOT

Mr. Stephen Glasscock; Program Coordinator, ITS Joint Program Office, Research and Innovative Technology Administration, U.S. DOT (ITSPAC Designated Federal Official)

Mr. Robert Monniere; Office of the Chief Counsel, Research and Innovative Technology Administration, U.S. DOT

Mr. Craig Austin, Volpe National Transportation Systems Center

Ms. Charity Coleman, Volpe National Transportation Systems Center

Mr. Mark T. Egan, Alderson Court Reporting

Mr. Charles Leocha, ConsumerTraveler.com

Mr. Andy Palanisamy, Citizant

Mr. Carlos R. Vélez, Citizant

3. Meeting Action Items

a. The ITS Joint Program Office (JPO) will send a copy of the printed ITS Strategic Plan, 2010 – 2014 to committee members who would like one when the reprint is available (see page 7, bold text).

b. The ITSPAC will make improving cooperation with the University Transportation Centers (UTCs) a priority (see page 13, bold text).

c. Mr. Mac Lister of the JPO staff will contact Mr. Steve Albert concerning cooperation with the UTCs (see page 13, bold text).

d. The JPO will coordinate participation in an ITS America Annual Meeting executive tour for any interested ITSPAC members (see page 13, bold text).

e. At the April 7, 2010, ITSPAC meeting, the JPO will provide committee members information on the governance structure within which the JPO operates (see page 13, bold text).

4. Meeting Agenda

a. Welcoming Remarks by the Research and Innovative Technology Administration (RITA) Administrator

b. Welcoming Remarks by RITA Deputy Administrator

c. Meeting Purpose and Agenda Review

d. Overview of ITSPAC Purpose, Charter, and Accomplishments

e. Overview of JPO Organization, Management, and Proposed Mission

f. Overview of ITS Strategic Plan, 2010 – 2014

g. Ethics Review

h. Summary and Adjourn

5. Summary of Proceedings

a. Welcoming Remarks by RITA Administrator

Mr. Peter Appel, RITA Administrator, opened his remarks by thanking ITSPAC members for their participation on the committee. He described the committee as a "dream team," representing stakeholders from every aspect of ITS and the transportation community.

Mr. Appel stated that the ITS Program is one of the most important programs of the U.S. DOT. He added that both he and Dr. Robert Bertini, the RITA Deputy Administrator, were at the meeting because the ITS program is so critically important that it needs significant attention from both of them.

Mr. Appel stated that what the U.S. DOT is trying to accomplish in the ITS field is difficult. Many U.S. DOT programs have been producing positive results year after year. However, very few programs undertake challenges and try to overcome barriers as great as those the ITS Program is trying to overcome to make real changes in transportation technology, safety, effectiveness, efficiency, and sustainability. The ITS Program addresses more of the Secretary of Transportation's strategic goals than any other U.S. DOT initiative, but the Program can succeed only by reaching out from within U.S. DOT to stakeholders, through the ITSPAC, to get their perspectives on the challenges facing Program implementation and the Program's strategic direction.

Mr. Appel stated that he spends much time inside and outside U.S. DOT speaking about how critical ITS is to U.S. DOT goals, and that he always begins by talking about safety. Mr. Appel stated that he knows ITSPAC members care about safety, but that they also care about other issues involving dramatic improvements to reduce congestion, to improve environmental sustainability, etc. These issues are included in the ITS Program's many goals, and there are many projects addressing those goals.

Mr. Appel stated that he had recently exchanged e-mails with Mr. Ron Medford, Deputy Administrator of the National Highway Traffic Safety Administration, concerning vehicle-to-vehicle communication used for safety in the IntelliDrive™ Program, and read the following from one of Mr. Medford's e-mails:

> "There isn't anything that we will do at DOT while we are here that has more potential to save more lives and advance the state of traffic safety and mobility than this. It is a major undertaking that requires focused attention and something that we really need, something that we struggle to have, but we need to advance as much as we can."

Mr. Appel added, "That really sums it up well. We need to focus to make change. This [Advisory Committee] will help us with that, and we look to your ideas." Mr. Appel again thanked the ITSPAC and stated he wanted them to know that they could call him to give him their thoughts directly.

b. Welcoming remarks by RITA Deputy Administrator

Dr. Robert Bertini, RITA Deputy Administrator, stated that he agreed with the Administrator's remarks and also thanked the members of the ITSPAC -- the first advisory committee that he and the Administrator had met with in their time at RITA. He added that he and the Administrator appreciated the committee's patience in its reconstitution that, because of the presidential transition, took some time; and that they were very eager to make up any lost ground that may have resulted. He emphasized the transparent approach that the U.S. DOT is taking with respect to the ITSPAC, "...where we want your honest assessment, we want you to disagree with us, we want you to push us." Dr. Bertini stated that the U.S. DOT tried to formulate ITSPAC membership in a truly cross-modal way that reflects all of the Department's stakeholders, adding that the Department will continue to emphasize the increasingly cross-modal flavor of the ITS Program. Dr. Bertini concluded his comments by expressing his personal appreciation to the JPO staff present at the meeting: Ms. Shelley Row, JPO Director; Mr. John Augustine, JPO Deputy Director; and Mr. Stephen Glasscock, JPO Program Coordinator.

c. Meeting Purpose and Agenda Review

Dr. Joseph Sussman, the Committee Chairman, reviewed the meeting agenda, highlighting four major topics: the ITSPAC purpose, charter and accomplishments; the JPO organization, management, and proposed mission; the ITS Strategic Research Plan; and an ethics review.

d. Overview of ITSPAC Purpose, Charter, and Accomplishments

(1) ITSPAC Purpose

Dr. Sussman emphasized that the committee has the privilege of advising the Secretary of Transportation not only on research, although the committee has spent a fair amount of time discussing research, but also on ITS development and implementation.

(2) ITSPAC Charter

Dr. Sussman stated that the committee has taken its charter as a very broad one. The committee reports to the Secretary through the JPO, and has no more than 20 members. Dr. Sussman noted that there had been a substantial turnover in committee membership upon the committee's charter renewal on February 7, 2010.

The committee typically has met three times a year. There are opportunities for additional working group meetings, and all meetings must be open to the public. A quorum of at least one-half of the committee's appointed members must be present to hold a meeting, and meeting agendas must be approved by the committee Designated Federal Official, in consultation with the Committee Chairman.

(3) ITSPAC Accomplishments

Dr. Sussman stated that the ITSPAC had met five times since it was initially chartered in 2007. Two of the meetings were held by Web conference.

The committee has submitted two advisory memoranda to the Secretary, both in 2008. These advisory memoranda were drafted by Dr. Sussman and Mr. Bob Denaro, the committee Vice Chairman, and circulated to all ITSPAC members for comment. The memoranda not only provided a record of the meetings from the committee's point of view, but also were quite specific on recommendations and what the committee members had learned.

Dr. Sussman highlighted two ITSPAC accomplishments that he is particularly pleased about:

(a) Helping to characterize the future of the ITS Program, and

(b) Focusing on an environmental perspective in ITS Program goals. Dr. Sussman stated that when the committee's work began, the environment was not among the ITS Program goals. Committee members believed that this was out of step with much of what was going on in transportation, and that, with the change in presidential administrations, it would be unfortunate if the committee did not focus on environmental concerns.

Dr. Sussman next addressed the ITSPAC's recommendation in Advisory Memorandum #2 that the JPO expand and extend its outreach to the UTC program, stating that the centers "…plausibly are almost a free resource for ITS to extend its reach."

Dr. Sussman invited Mr. Denaro to address the committee. Mr. Denaro requested that committee members read the committee charter, and that the committee stay focused on that charter in future meetings.

Dr. Sussman turned the meeting over to Ms. Row.

e. Overview of JPO Organization, Management, and Proposed Mission

Ms. Row added her thanks to committee members for participating on the committee and the Web conference.

Ms. Row explained that the ITS Strategic Plan briefing that she would be presenting would be high level so that committee members will have some familiarity with the ITS Program as a basis for their future discussions at meetings in Washington, DC. The intent is to make better use of their time at those meetings.

Ms. Row addressed Dr. Sussman's comments concerning the UTC Program. She stated that the previous committee had been very articulate about encouraging the JPO to expand its cooperation with UTCs, and that the JPO is moving ahead with that very well. The ITSPAC would soon be hearing more about a meeting the JPO is scheduling with UTCs in April to discuss the ITS research program and how the JPO can better engage and partner with the UTCs. She added that this is a very direct result of the advice the ITSPAC has provided in the past, and is a real tribute to the work of the previous committee.

Ms. Row explained that the the JPO is part of RITA, and manages and allocates funding resources for the ITS research program, which also includes technology transfer and deployment support. The JPO takes very seriously its multi-modal role. The ITS research program was developed in strong collaboration with RITA's modal partners. Not only did the other modal administrations help develop the research program, but they are central to the execution of the work as well, so the ITS research program is a U.S. DOT, and not a JPO, research program. Referring to the JPO organization chart, Ms. Row emphasized that the JPO is a small organization by design, since it is intended to work hand-in-hand with the modal administration staffs.

f.   Overview of ITS Strategic Plan, 2010 – 2014

Ms. Row reiterated that her presentation would provide a high level view of the ITS Strategic Research Plan, but that she would provide a Web link to the strategic planning documents at the end of the presentation. There are no printed copies of the Strategic Plan remaining; however, additional copies will be printed. **The JPO will send a copy of the printed ITS Strategic Plan, 2010 – 2014 to committee members who would like one when the reprint is available.** Following are the main points of Ms. Row's presentation on the ITS Strategic Research Plan, 2010 – 2014:

- As the ITS Program's current body of work neared conclusion, the JPO engaged in a strategic planning process to determine what the future ITS Program would be.

- Ms. Row stated that she would discuss the strategic plan as it is administered by the JPO, which is only a "piece of the whole," since the other modal administrations have their own ITS programs, and there is a great deal of work conducted in the ITS and research communities, state and local governments, the private sector, industry, etc.

- The strategic planning process began in 2008, and the previous advisory committee was very integral to that process. They devoted a two-day meeting to discussing trends in transportation and technology and to helping the JPO identify

areas of opportunity for focus. The JPO conducted interviews with modal staffs and with a broad range of other stakeholders, published a Request for Information (RFI), and conducted a public meeting. The outcome was a focus on the theme of wireless connectivity.

- A key message from the RFI results and stakeholder input was that the research plan should be focused, provide a vision, and provide an incremental approach that would deliver solutions in five years.

- The strategic research plan vision is development of a multi-modal system that is linked through wireless connectivity to serve the public good for safety, mobility, and the environment. The suite of technologies and applications that use this wireless connectivity has been named IntelliDrive^{TM}.

- The vast majority of the funding resources go to research (75 percent in 2010), with other funding to technology transfer, program support, and a contingency to allow adaptability and flexibility. Of the budget funding allocated to research, 63 percent is focused on multi-modal research. The research program intentionally is focused on multi-modal areas that would be difficult for any single mode to undertake. Some of the program is also mode-specific research and some is exploratory research.

- Each research program will include "Go/No-Go" decisions at all major milestones to help determine if the program is on course and still worthy of investment. Costs and benefits will be assessed at all major milestones.

- Driver distraction, which has been a focal point for the Secretary of Transportation, is embedded in all ITS research, as are evaluation and technology transfer.

- Stakeholder engagement will be conducted throughout the life of each program to ensure all program activities are in "lock-step" with the stakeholder community, and ITSPAC advice is a big part of that.

- IntelliDrive^{TM} is the centerpiece of the research program. IntelliDrive^{TM} is a suite of technologies and applications that use wireless communication to provide connectivity between vehicles (vehicle-to-vehicle or V2V) and between vehicles and the infrastructure (vehicle-to-infrastructure or V2I). All of those technology suites can support applications for safety, mobility and livability, and the environment.

- The IntelliDrive^{TM} vision is the vision we are trying to achieve in the strategic research plan; that is, to deploy the suite of wireless technologies to realize safety, mobility, and environmental gains.

- The ITS Strategic Research Plan has been designed to address research questions that must be resolved to implement IntelliDrive^{TM}. The research questions are in three areas: applications, including field tests and demonstrations; technology underpinning; and policy and non-technical issues. Highlights of the high-level questions in each area are:

  - Applications – Are there applications available that are validated with proven benefits?

  - Technology underpinnig – Is the technology interoperable, secure, reliable, and stable?

  - Policy and non-technical –Do we have a sustainable system that will ensure the public is comfortable with privacy provisions and driver distraction issues?

- Applications Area Summary

  - Vehicle-to-Vehicle (V2V) Communications for Safety

    o Centerpiece of the applications area.

    o Research designed to develop a few applications, test them, and validate their effectiveness.

    o Collect sufficient data to enable NHTSA to decide by 2013 if this technology is worthy of regulation.

    o Uses designated short-range communications (DSRC) in the 5.9 GHz band, which is allocated for safety purposes.

    o A primary area of this research is to find ways to accelerate DSRC into the vehicle fleet and to determine how to work with the transportation community to embed DSRC and "Here I am" messages into aftermarket technologies to develop some applications and derive benefits earlier than would otherwise be achievable.

  - Vehicle-to Infrastructure (V2I) Communications for Safety

    o Structure similar to V2V.

    o Develop applications, test them, and validate their effectiveness.

    o Uses DSRC at 5.9 GHz.

- o Research focus is traffic signal systems – can they be equipped to emit a signal, phase, and timing (SPaT) message?

- – Real-Time Data Capture and Management

  - o Seeks to capture multimodal data (freeway, arterial, transit bus, transit rail, parking, and any other kinds of modal data that can be captured in real time), understand what we have, its quality, its level of detail, and how it can be integrated with traditional sources of data; and then make use of it.

  - o Makes data sets available to others in the transportation community, particularly the research community, to catalyze their own research.

  - o Essential to the dynamic mobility applications part of the research; that is, how can we use this wireless data to better manage a multimodal system.

  - o Data is non-DSRC as well as DSRC.

  - o Will seek to develop applications that are particularly of use to public agencies, because our theory is that the private market will be driven by the private sector, and we want to investigate how this data can be used for public use through public agencies.

- – Road Weather Management

  - o Seeks to capture vehicle-based road-weather and weather data, determine data quality and validity, determine how it could be integrated with data from the National Weather Service, and understand the applications that could be derived for public agency purpose, while also making that information available to private industry.

- – Applications for the Environment: Real-Time Information Synthesis (AERIS)

  - o The JPO is very proud of this application area, which came directly from ITSPAC advice.

  - o Similar to the other application areas, seeks to capture data on the vehicle not previously accessible, and to determine how it can be used and integrated with other environmental data.

  - o Goal is to partner with the Environmental Protection Agency.

– Human Factors

  o Purpose is to eliminate distractions related to ITS devices as contributing factors to crashes.

  o Intent is to work very closely with NHTSA to determine how to make use of this technology to improve safety and decrease driver distraction problems, without introducing unforeseen safety problems.

- Technology Underpinning Area Summary

  – There are some very difficult technical issues that remain to be researched to make IntelliDrive^{TM} deployable. For example:

    o Some systems are communicating 10 times per second with every vehicle. This is an unprecedented scale that must be studied.

    o There are some issues with radios concerning how data packets are received and their reliability.

- Policy and Non-Technical Area Summary

  – Some issues being studied are DSRC 5.9 GHz deployment scenarios.

  – These deployment scenarios are changing as we learn more about what the technology has to offer.

  – At the April 7, 2010, ITSPAC meeting, the JPO will share with committee members some thoughts on how this might play out.

  – Financing is another issue that must be addressed once it is known what has to be funded.

  – Other "big ticket" items that must be addressed are liability, privacy, data ownership, governance, and certification (how does one certify that these are all functioning systems that can be trusted by all vehicle manufacturers?).

- Ms. Row briefly mentioned Mode Specific Research, highlighting that it is very multi-modal in nature, including research related to highways, transit, truck, and maritime applications. Ms. Row invited ITSPAC members to visit the JPO Website for more information.

- Addressing the Exploratory Research part of the program, Ms. Row mentioned the exploratory solicitation program that seeks to engage a larger section of the community in identifying good ideas and new topics for research.

- With respect to Technology Transfer and Evaluation, Ms. Row stated that the JPO intends to continue its Professional Capacity Building and Architecture and Standards programs; and each of these programs will include outreach, stakeholder, and evaluation components.

- In summarizing the ITS Strategic Plan, Ms. Row highlighted the following information:

    - The program includes heavy investment in multi-modal research ($75 million in Fiscal Year 2010) with $14 million to technology transfer and evaluation.

    - One-half of the Fiscal Year 2010 ITS budget ($49 million) will be allocated to IntelliDrive^{TM}, and that will grow in the coming fiscal years.

    - Safety applications are the primary focus.

        o V2V research is designed to support a NHTSA regulatory decision in 2013.

        o V2I research initially will focus on use of signal, phase, and timing.

        o DSRC is clearly the technology for the safety applications.

        o Driver distraction will be a key component of the research.

        o International standards harmonizing is a priority.

        o There are strong programs in mobility and the environment that use DSRC and non-DSRC technology.

    - More information on the ITS Strategic Reasearch Plan, 2010 – 2014 can be found in the ITS JPO Website (http://www.its.dot.gov), in the IntelliDrive^{TM} Website (http://www.intellidriveusa.org), and Twitter: ITSJPODirector.
    - Ms. Row added that the ITS JPO is on Twitter and has an RSS feed, which can be accessed at the ITS JPO Website.

Ms. Row turned the meeting back over to Dr. Sussman.

Dr. Sussman thanked Ms. Row for the briefing and asked if any committee members had questions. There were none, and Dr. Sussman continued to confirm the names of meeting attendees.

Having confirmed the meeting attendees, Dr. Sussman again thanked Ms. Row and stated the he is looking forward to the April 7 meeting. Dr. Sussman requested that committee

members not hesitate to contact him, Mr. Denaro, or Ms. Row with ideas for the April 7 meeting agenda. Dr. Sussman invited Mr. Denaro to make any comments.

Mr. Denaro invited committee members to suggest how the committee can be most effective in its process. He stated that "…we all swoop in for a meeting and then we go away, don't think about things, and then we swoop back in again. Somehow in that process we've got to come up to speed and be able to make significant contributions and be useful in two ways: for us to be useful to the program office and for that information to be useful back for us."

Mr. Steve Albert stated that he will become President of the Council on University Transportation Centers (UTCs) in June. In the past, the committee has discussed the need to determine ways to work better with the UTCs. Mr. Albert recommended including this as an agenda topic for the April 7 meeting to develop a strawman on how this might work.

Dr. Sussman responded that he was in full agreement, adding that he believes the UTCs are an underutilized resource, and that **the committee will make improving cooperation with the UTCs a priority**.

Ms. Row addressed Mr. Albert, stating that Mr. Mac Lister of the JPO is working on the issue of improving cooperation with the UTCs and asked if Mr. Lister could contact him directly. Mr. Albert agreed.

Ms. Row addressed two additional topics:

- **The JPO is planning an executive tour at the ITS America Annual Meeting, May 3-5, in Houston. If any ITSPAC members are interested, the JPO will coordinate their participation in the executive tour.**

- **At the April 7 meeting, the committee will receive information on the governance structure within which the JPO operates.**

Ms. Row stated that she wanted to make clear that this would be the only committee meeting with one-way communication from the JPO to the committee. This format was used at this meeting so it wouldn't have to be used in the future.

g. Ethics Review

Mr. Bob Monniere presented an ethics review with the following major points:

(1) General Services Administration (GSA) regulations govern the management of federal advisory committees.

(2) GSA regulations require that advisory committee meetings be open to the public, that they are on the record, and that meeting documents be made available to the public on request.

(3) Closed meetings may be conducted with prior approval. However, the request for approval is a very detailed administrative process, so unless there are extenuating circumstances, all meetings are on the record.

(4) GSA regulations require that agency heads ensure that ethical conflicts are avoided. For example:

   (a) It would be unethical for a committee member to do business with the U.S. DOT.

   (b) Providing input on personnel matters internal to the U.S. DOT would be inappropriate.

(5) Mr. Monniere can be contacted at 202-366-5498.
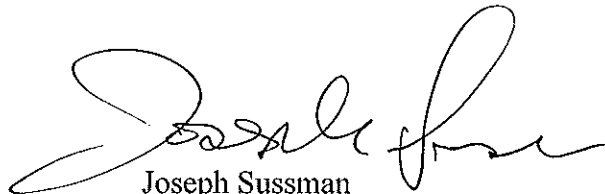
h. Summary and Adjourn

Dr. Sussman reiterated Ms. Row's comment that future committee meetings would be much more interactive, and stated that he looked forward to seeing other committee members in April.

The meeting adjourned at 4:01 p.m.

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

Shelley Row
Director, ITS Joint Program Office

Joseph Sussman
Committee Chairman