TRANSPORTATION SAFETY ADVANCEMENT GROUP

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May 20, 2009

Shelley J. Row, *Program Director,*
*ITS Joint Program Office,*
*Research and Innovative Technology Administration,*
US Department of Transportation
Washington, DC

Re: Establishing Strategic Direction for Intelligent Transportation Systems
[Docket No. RITA 2009–0001]

Dear Ms. Row:

The Transportation Safety Advancement Group (TSAG) appreciates the opportunity to respond to the referenced request for public comments on the proposed direction, goals, and objectives for the multimodal ITS Program over the next five years.

TSAG commends RITA and its associated agencies for the foresight and effort dedicated to this important activity. We support development of a RITA Strategic Direction for Intelligent Transportation Systems as timely and appropriate to framing a strategic direction that will unify a national agenda for transportation technologies dedicated to operational safety, mobility and environmental quality. We're pleased to offer our comments specific to RFI questions.

TSAG is an assembly of multi-disciplinary professionals sharing a common interest in promoting technologies for transportation and public safety. Our members represent communities of interest dedicated to transportation operations, emergency services, and public safety. The group serves as a forum for the consideration of technologies for transportation-related public safety and provides input and guidance to the US Department of Transportation, ITS Joint Program Office. TSAG members are dedicated to enhancing both traveler and responder safety on our nation's roadways through the application of advanced technologies and the promotion of inter-disciplinary and inter-agency cooperation.

The following TSAG vision statement is provided as a backdrop to our comments and as an indicator of the perspective of this important mix of stakeholders: *"Public safety services on and along the nation's highway system enabled by seamless operations technologies and integrated across jurisdictions and transport modes – ensuring the safety and security of both travelers and the public safety personnel who serve them while optimizing the efficiency, environmental quality and mobility of the transportation system."*

Clearly, the TSAG vision closely parallels the underlying theme and focus of a RITA Strategic Direction for ITS. Accordingly, we look forward to a continuing association with US DOT, with RITA, and with the ITS Joint Program Office as they collectively move to implement elements of a long term ITS strategy.

Through the remaining sections of this document we offer general observations followed by recommendations specific to those elements of RFI that are relevant to TSAG public safety perspectives. We begin with summary comments responsive to specific questions of interest listed in the RFI. Following these, we provide comments specific to the Strategic Initiatives and to specific to goals within each initiative. For ease of communication, we include the language from the RFI in *italic* fonts and our comments following each in regular font.

## RFI Objective and Response Requirements

***a.)*** *Do the goal areas and objectives establish the foundation for an appropriate and feasible multi-year strategic research agenda for the ITS Program to pursue over the next five years?*

**Comment:** Yes, generally. TSAG agrees that the overarching theme, *vehicle and infrastructure connectivity* is a useful foundation for setting a strategic direction for Intelligent Transportation Systems. We also recognize that *vehicle and infrastructure connectivity* represents an advanced concept common to and recognizable by the transportation sector, and embodies a laudable vision for our nation's transportation future.

TSAG commits to this *vehicle and infrastructure connectivity* concept. We note however, that while it may be assumed that the concept might include *emergency vehicle connectivity,* and *emergency communications interoperability,* we ask that these key *connectivity* components not be left to interpretation, but rather be specifically identified as critical program objectives. TSAG recommends that these elements of transportation safety be specifically identified in any national technologies-for-public safety strategy and should be emphasized in the RITA strategic direction. We further recommend that technologies and operational procedures for incident *prevention*, emergency response to enhance the *survivability* of victims and the safety of *emergency services providers* be more prominent in the RITA ITS Strategic Plan.

***b.)*** *What strategic issues, goal, and/or objectives do you view as vital for establishing a research agenda that provides meaningful and transformational changes for the Nation?*

**Comment:** In particular, we urge RITA to incorporate a "dual-benefit" theme into its future direction. By this we mean that programs within the theme of *vehicle and infrastructure connectivity* must clearly and unmistakably take into account public safety services and benefits along with the objectives of mobility and environmental quality. Additionally, the RITA strategic direction should define, and through appropriate research, address the unique safety needs of

emergency responders, including emergency vehicles, emergency communications, and emergency operations including incident management.

***c.)*** *Are there research or technology development opportunities within these goal areas that are not described within this RFI? If yes, please describe them, the value of the research, and the reason for federal government involvement as opposed to private sector or academia.*

***Comment: Yes***. Noted below and in some cases elsewhere in this response, including:

- Researching the *human factors* component of any *vehicle and infrastructure connectivity* goal. Updating 'design driver' attributes and the changing role that vehicle operators will play in an emerging technology-based environment will complement the goal and help fill gaps in the *vehicle and infrastructure connectivity* concept.

  Reason: Complementing research fostered by US DOT accelerates outcomes and ensures compatible research objectives.

- Researching *emergency vehicle connectivity* technologies that support emergency responders through:
  - Increased situational awareness and resources management and control
  - Remote monitoring of incident scene and emergency operations
  - Real time emergency routing and travel conditions information

  Reason: Emergency vehicle operations are a key ingredient in any national ITS strategy.

- Researching emergency communications interoperability and specific elements including:
  - Promote voice, graphic, text and video data communications interoperability
  - Promote the development of Statewide Communications Interoperability Plans
  - Promote Regional Interagency Emergency Communications Networks

  Reason: Emergency communications interoperability continues to be an elusive technology for public safety goal. Additional research on the elements of interoperability including applications and funding must remain a national goal.

- Researching and continuing development and refinement of our national NG9-1-1 emergency number toward:
  - Fully operational NG9-1-1 systems on a national scale
  - Adequately equipped and staffed Public Safety Access Points
  - National models for local NG9-1-1 Authorities

Reason: NG9-1-1 research and field demonstrations have seen important progress in recent years. Continuing research, testing and deployments must remain a national goal.

***d.)*** *In your opinion, if the objectives of the goal areas are met, will technology transfer within these goal areas create dynamic and sustainable markets? If yes, please identify the opportunities and risks.*

***e.)*** *Are there opportunities to partner that are currently not being pursued by the ITS Program? If yes, please describe the opportunity and how risk/reward would be shared. What barriers must be overcome in order for the research program to be deployed in the future?*

***Comment:*** While partnering with the auto industry and with after market automotive equipment manufacturers is viewed as desirable, recent developments in OEM markets raise concerns about the ability of OEMS to focus on such partnerships in the short term. It can be expected that automotive manufacturers will be creative in developing partnerships with other private technology developers. This will increase the likelihood of technology products and consumer services that are relevant to personal safety, mobility and energy savings.

TSAG suggests promotion of a wider range of partnerships. The RFI mentions stakeholders in several areas, but falls short of better defining how public sector stakeholders might partner among themselves and with private sector entities. In particular, the research program will benefit by recognizing the barriers which prevent important stakeholder groups (i.e., public agencies providing emergency services) from working toward common goals to research and develop critical technologies. TSAG stakeholder groups are individually unable to promote or cultivate significant changes. Unfortunately, many of the technologies often focus on select stakeholders without consideration of how technologies would benefit broader stakeholder groups. If research is conducted with the broad public safety stakeholder in mind, the prospect of stakeholders pulling together for planning and implementation will clearly be enhanced.

While incident scene management was mentioned earlier as a component of emergency response, the broader matter of incident management merits specific mention. TSAG is partnered with the National Traffic Incident Management Coalition (NTIMC) and endorses the NTIMC mission of a national unified goal for incident management including responder safety; safe, quick clearance; and prompt, reliable interoperable communications.

***f.)*** *Given limitations on funding, which research goals and objectives are the most important to pursue? Please explain your basis.*

From the perspective of TSAG communities of interest, the *safety* initiative is most important. We believe that a focus on safety naturally generates spillover effects on associated initiatives and by its nature transcends the *mobility* and *environmental stewardship* initiatives. For example, by focusing on the speed and appropriateness of emergency response, roadway

incidents can be cleared up more efficiently, secondary crashes are prevented and the traveling public will benefit by restored mobility.

***g.)*** *What are any remaining concerns? Respondents are also encouraged to provide any additional information that describe alternative concepts, technologies, or research areas that would benefit the establishment of the next multi-year strategic agenda for the ITS Program. In particular, the ITS JPO is interested in descriptions of future technologies and systems that will build from and continue to provide transformational change to the transportation system, but that in current form are still highly exploratory in nature.*

TSAG believes that advanced technologies will constitute the bridge for moving beyond the continuing 'stall' in traffic safety progress experienced upon our nation's roadways. This RITA effort directed at establishing a strategic direction for Intelligent Transportation Systems, vis-à-vis, advanced technologies for transportation, is an important foundation for such a bridge. In this regard, TSAG offers additional observations:

- Subsequent periodic updates of a national 'strategic direction' should be hereafter programmed to specific calendar milestones such that RITA public and private partners may anticipate and participate in these updates on a continuing basis.

- National policies on technologies for public safety must unfold from rigorous research and through disciplined field operations testing.

- Accordingly, TSAG recommends that national policies addressing funding for public safety technologies research and demonstrations be driven by local experience and circumstances which in turn will serve to drive national public safety goals.

## Comments Specific to the Strategic Initiatives and Goals

**SAFETY Strategic Initiative** (*one goal*)
*Outcome Sought: Significant reduction in crashes, injuries, fatalities, and associated economic costs.*
*Goal:* Transformative safety through vehicle and infrastructure connectivity.

**Comment**
The vehicle and its operating infrastructure are key components in the transformative *safety through connectivity* agenda. TSAG recommends that this agenda should not ignore the third component, the vehicle *operator*. The *vehicle*, the *driver* and the *roadway* have long been viewed as the three component points of the surface transportation triangle. Accordingly, drivers should be identified as a key system component to be increasingly understood, defined and considered. While a great deal is known about vehicle operators through ongoing human factors research, TSAG proposes that surface transportation systems designers and operators

may not be uniformly addressing the full range of vehicle operators, including drivers of private passenger vehicles and operators of special vehicle classes including emergency vehicles.

This initiative should be supported by an additional objective that targets an updated definition of the *design driver*. A twenty first century *design driver* would establish key driver attributes across driving populations and identify their 'technology tolerance' in terms of the vehicle and infrastructure connectivity goals. *Emergency vehicle operators* as a unique class of drivers merit special definition and may necessitate unique vehicle/driver/infrastructure interaction models.

**MOBILITY Strategic Initiative** (*three goals*)
*Outcome Sought*: Significant improvements in mobility that results in more sustainable and livable communities.

Goal 1: Capture complete, real-time information on all roads and all modes to support transformational system performance.

**Comment:** The initiative should target real time information needs and *mobility* of emergency response vehicles and operators by addressing information to guide first response, crash scene management and victim evacuation routing and medical services communications.

*Goal 2*:
Achieve transformational transportation management and system performance through applications of vehicle and infrastructure connectivity.

**Comment:** For the foreseeable future, some significant percentage of vehicle, driver, and infrastructure interaction will continue to be served through static mediums, including signs, markings and roadway appurtenances. As connectivity parameters and goals are defined, transitional strategies and protocols should be defined.

**ENVIRONMENT Strategic Initiative** (one goal)
*Outcome Sought*: Reduced transportation impact on the environment and improved livability.

*Goal*: Enable environmental management through vehicle and infrastructure connectivity.

**Comment:** TSAG assumes that real-time environmental data includes *hazardous materials* and other environmentally sensitive cargos such that first-responders are among stakeholders receiving advance notification and real-time information on routing and status of transporting vehicles.

**POLICY FOUNDATION FOR DEPLOYMENT Strategic Initiative** (*one goal*)
*Outcome Sought*: New institutional policy and potential regulatory requirements and a foundation for effective deployment of technologies.
**Comment:**

TSAG recommends that RITA consider revising this 'outcome' statement to read:

*Outcome Sought:* Institutional policy and regulatory *foundations* that *promote* effective deployment of proven technologies and that promote national connectivity goals. Accordingly, any regulatory requirements for advanced technologies should be viewed as much as *platforms* for *facilitating research* and *investment* as they should be applied to regulate and control unacceptable practice.

The Transportation Safety Advancement Group appreciates the professional and courteous manner which RITA has taken in soliciting comments. We applaud this effort and remain available to support this and related efforts at any time.

Thank you for the opportunity to comment,

Dia Gainor, Chair
Transportation Safety Advancement Group

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