



Transportation Safety Advancement Group

2019 - 2020

STRATEGIC PLAN

TSAG Vision:

Public and responder safety that is fully integrated and enabled through the use of transportation technology.

February 2019

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Transportation Safety Advancement Group 2019 – 2020 STRATEGIC PLAN

1. FOREWORD

The Transportation Safety Advancement Group (TSAG) provides important input to the US Department of Transportation (US DOT) Intelligent Transportation Systems (ITS) Joint Program Office (JPO) by identifying and promoting technology applications that address our nation's surface transportation safety challenges. The Institute of Transportation Engineers provides operational, administrative and technical support through funding from the USDOT ITS JPO. This Strategic Plan updates an earlier 2016-2018 Plan and refines the form and direction through which TSAG continues pursuit of its mission of technology for public safety-specific challenges. Through awareness of our operating environment and capacities, and by setting our strategic direction, this Plan defines a path for serving key TSAG objectives through 2020.

2. HOW TSAG WORKS WITH THE ITS JOINT PROGRAM OFFICE

The US Department of Transportation's ITS Joint Program Office (JPO) is focused on intelligent vehicles, intelligent infrastructure, and the advancement of safe and efficient transportation systems through connectivity between and among transportation system components. The ITS JPO supports the advancement of Intelligent Transportation Systems through investment in major initiatives, exploratory research, and deployment support. The ITS JPO pursues its goals through research and development, operational testing, technology transfer, training, and technical guidance particularly in the areas of intelligent vehicles, advanced traffic and transit management, commercial vehicle operations, public safety, traveler information, and inter-modal freight.

From its inception as the Public Safety Advisory Group in the early 2000s, the Transportation Safety Advancement Group has been dedicated to its purpose of gaining insight and knowledge of transportation safety needs and how these may be served through proven and emerging technologies. Through a dedicated group of volunteer transportation and public safety professionals, TSAG is a significant advocate for employing public safety technologies to address our national transportation safety challenge. Through pursuit of its charter to advance transportation safety via the ITS Joint Program Office on Intelligent Transportation Systems and advanced technologies, TSAG supports the ITS Joint Program Office mission.

3. A STRATEGIC TSAG VISION & MISSION

The TSAG vision represents the long-range ideal that its partners collectively pursue. This ideal inspires the TSAG, its stakeholders, partners, and like-minded interest groups to unite behind a core purpose and recognize a service to TSAG's communities of public and transportation safety interests.

TSAG Vision

Public and responder safety that is fully integrated and enabled through the use of transportation technology.

While the TSAG Vision describes an ideal state pursued through TSAG Strategic Plan, the companion TSAG Mission focuses on who we are, how we will progress toward this ideal, and the focus of TSAG activity to serve its charter and its stakeholders.

TSAG Mission

In concert with the US Department of Transportation ITS Joint Program Office, TSAG identifies and promotes transportation related technologies that improve the safety of responders and the public.

It is this TSAG Mission that sets the near term directive for current and future TSAG special projects, meetings, outreach activities, and for its broader purpose of knowledge transfer.

4. TSAG STRATEGIC DIRECTION

To optimize Strategic Plan effectiveness, TSAG seeks to assimilate a core strategy for achieving its projects and meeting objectives, and understands that it cannot be distracted from this core strategy. This declaration of strategic discipline is termed our Strategic Direction. The focus of this TSAG 2019-2020 Strategic Plan is defined through this Strategic Direction.

Strategic Direction:

The Transportation Safety Advancement Group, through its special projects, work plan, and outreach activities, promotes technologies and best practices that minimize transportation incident impacts and support safe and efficient emergency response and management through interdisciplinary and inter-agency communications and coordination.

Through a primary focus on this Strategic Direction, TSAG will address issues and opportunities identified through the 2019-2020 Work Plan section of this document. These actions include strategic goals to be pursued and strategies for their achievement.

5. OPERATING PRINCIPLES / OPERATING GOALS

Operating Principles

In support of its charter to provide feedback and insight to US DOT ITS Joint Program Office, TSAG is dedicated to advancing public safety across transportation modes, transportation services and functions, and transportation and public safety jurisdictions. To this end, TSAG has shaped this Strategic Plan through observance of its refined Operating Principles, including:

- **Public Safety Through Technology** – The advancement of proven and emerging technologies for traveler safety and for the safety of emergency responders remains a TSAG priority as these technologies and broader Intelligent Transportation Systems are deployed along our nation’s multi-modal transportation networks.
- **Public Safety Through Strategic Alliances** – Strategic alliances, partnerships, and institutional frameworks that serve to advance transportation safety and mobility through technology are encouraged and will be promoted through TSAG support of relevant public policy, technology research, and competitive and open technology markets.
- **Public Safety Through Knowledge Transfer** – TSAG will advance traveler and emergency responder safety through forums that share knowledge, promote awareness, and exchange experiences – all employed to create a national awareness of, and connection to, transportation and public safety goals and achievements.

Operating Goals

Guided by the Operating Principles, a companion set of strategic Operating Goals supports cohesion among TSAG members, their communities of interest, and TSAG strategic partners as all come together to support a unified program of actions. Accordingly, specific TSAG Operating Goals will be pursued in support of this *2019-2020 Strategic Plan* and companion special projects, meetings, and outreach activities. These include:

- Support operating partnerships within TSAG Interest Communities and like-minded stakeholders

- Strengthen the interplay among TSAG members and partners through interactive working events
- Establish functional knowledge transfer and information exchange mechanisms
- Strengthen TSAG's identity with federal, state, regional and local transportation operators and with US DOT modal administrations
- Support and help expand a national partnership among leading transportation operations and public safety organizations as well as related technology industries
- Identify and support the needs of first responder safety technologies
- Identify and promote best practices for improving public safety inter-disciplinary coordination
- Identify and promote public safety communications technologies

6. THE TSAG OPERATING ENVIRONMENT

To help ensure positive outcomes and to respond to its operating environment, the TSAG Strategic Plan continues to seek insight and guidance from its US DOT sponsors, key ITS industry leaders, and the evolving political, institutional, and technical environments.

Working within this operating environment, TSAG will dedicate its resources of volunteer members, US DOT leadership, and strategic partners in pursuit of its public safety mission. Potential strategic partnerships include national TSMO/ITS research entities such as the Transportation Research Board (TRB), the American Society of Civil Engineers (ASCE), the Institute of Transportation Engineers (ITE), the Intelligent Transportation Society of America (ITSA) and SAE International, as well as USDOT entities such as Turner-Fairbank Highway Research Center and the Volpe National Transportation Systems Center.

7. TSAG COMMUNITIES OF INTEREST

The Transportation Safety Advancement Group is organized under its bylaws to provide general input and promote public and transportation safety within the US DOT ITS Joint Program Office. Administered by ITE and supported through US DOT resources, TSAG complies with US DOT policies and regulations. Within this framework, TSAG functions through a proactive dialogue between representatives of its interest communities, ITS JPO staff, and US DOT Modal Administrations, collectively dedicated to advancing the safety, efficiency, economy, and environmental quality of transportation operations.

From its inception, the representative member team of professionals from multiple disciplines dedicated to a common public safety mission has strengthened TSAG's ability to achieve its goals. Today, eight specific interest communities, representing a broad range of stakeholder organizations, nominate sixteen members (Appendix A) to direct the business of TSAG. TSAG communities of interest include:

1. Academic & Research

Play key roles in research, education, and evaluation of transportation technologies, as well as performance measurement of technology applications and systems operations.

2. Emergency Communications

Serve as the primary communication link for the public to obtain assistance from public safety professionals, and manage the technologies, data, interoperability issues, and communications frequencies utilized for incident response and initial incident management.

3. Emergency Medical Services

Represent the front line of on-scene assessment, medical treatment, and transportation of victims in life threatening circumstances from incident sites to emergency departments and trauma centers.

4. Transportation Operations

Oversee day-to-day surveillance, control, and management of transportation systems and multimodal networks through inter-agency and inter-disciplinary communication and coordination.

5. Fire & Rescue

Serve fire-suppression needs, hazardous materials handling, victim rescue/extraction, and incident scene management operations support.

6. Law Enforcement

Serve as the first line authority in incident response and management including incident scene management and protection, and incident evidence preservation.

7. Technology & Telematics

Provide multi-level technology applications for transportation operations and for interfacing between drivers, vehicles, and infrastructures, through communications and integrated systems.

8. Emergency Management

Address coordinated response to unplanned events or catastrophic incidents through multi-agency communications and multidisciplinary/multilevel management strategies.

8. 2019-2020 WORK PLAN

The TSAG road map for achieving its strategic goals is laid out within this Work Plan. The 2019-2020 Work Plan detailed in this section replaces and builds upon previous TSAG Work Plans. TSAG pursues its strategic goals and progressively builds upon previous work through specific work plan elements, all aimed at serving this two-year Strategic Plan.

Evident in this Work Plan are the common threads of TSAG identity, knowledge transfer, multi-level communications, and technology assessment. These common threads maintain a progressive growth path from one year to the next. Specific tasks associated with any given element will in turn respond to the TSAG operating environment. Thus, as the work plan is pursued, measures of performance and effectiveness will be monitored to identify necessary corrections, strengthen outcomes, and maintain a proper course toward meeting identified objectives.

Outreach around Special Projects

TSAG has pursued several special projects in order to advance its vision of protecting travelers and the public safety personnel who serve them. These special projects allow TSAG to take creative and innovative approaches to advocating for and promoting emergency responder and traveler safety. These projects have been developed by TSAG at business meetings and during conference calls, and were incubated through special project committees, assigned by the TSAG Executive Committee.

TSAG can only fulfill its vision and pursue its mission with an effective outreach program. Because of the often segmented nature of the transportation community, effective channels of communication and knowledge transfer must be undertaken in order for traveler and emergency responder safety advocacy to be effective. Therefore, as special projects are completed, TSAG fosters and manages strategic partnerships with appropriate transportation communities, using tools such as meetings, briefings, presentations, a widely

marketed website, and outreach materials to be distributed at key industry events.

The following special projects were identified and completed in the 2016-2018 Work Plan:

- Emergency Vehicle Operator On-Board Device Distractions
- Model Emergency Response Components for State Highway Safety/Highway Improvement/ITS Strategic Plans (State Plan Project)
- Synthesis of Technologies that Protect and Support Incident and Emergency Responders. At least one demo was completed during Q3 2016 with live and web outreach
- Connected Responder: Interest, Context, and Business Development

2019-2020 Special Projects

TSAG has identified the following special projects for the 2019-2020 Work Plan. These special projects are described briefly below and presented in priority order:

1. I2R Future Opportunities

Infrastructure-to-responder (I2R) technologies include location/GIS information of facilities, signal prioritization and other technologies that allow infrastructure to communicate with responders. Future opportunities for responder and handheld-friendly communication will improve information sharing and responder safety. This project will develop a state of the practice synthesis of infrastructure to responder technologies and communication.

2. AACN New Ideas

Advanced automated collision notification (AACN) provides life-saving information by reducing the time required for detection, notification and response to an incident. It can also enhance patient care through provision of real time patient information. This project will look at existing and future AACN applications and develop a white paper to demonstrate the opportunity for this technology to improve patient outcome and future possibilities.

3. Nexus between NextGen 911 and FirstNet

This project will refine current work summarizing the physical interface between networks. This includes consideration of proprietary interface limitations. The anticipated product will be a white paper and presentation looking at current conditions and recommendations for the future.

4. X2R Wearables

This project will develop a state of the practice report on emerging practice in vehicle-to-responder and other technology communications to responder (X2R) that would enhance the safety of transportation public safety responders. It will document a variety of case studies of applications in transportation public safety and actual practice, and share the information through the TSAG website and presentations.

5. TMC - PSAP Interface

Real time information sharing and interoperability between traffic management centers (TMC) and public safety answering points (PSAP) provide enhanced detection, notification and response to incidents. This project will look at case studies on effective integration (automated, speed dial, other) and review pooled-fund studies to develop a synthesis of best practices for TMC/PSAP data sharing and integration. It will look at locations that have an extraordinary level of interface, document experience to share with others and develop case studies on effective integration.

6. Transportation Public Safety Apps

This project will develop a white paper looking at the opportunities to advance transportation public safety apps through activities such as “hack-a-thons” or development of an app store for responders. The final product will look at creating a transportation-centric app store for public safety.

Each project will be developed to include outreach strategies and measures of effectiveness. ITE will work with the TSAG Executive Committee and the project committee, if one is designated, to develop a scope of work, cost and schedule for the project.

In addition to targeted outreach around the special projects, TSAG will continue to help bring together the emergency responder and general transportation/ITS communities whenever the opportunity presents itself, through webinars, presentations at conferences, demonstrations or other events, and in coordination with the National Operations Center of Excellence.

9. TSAG OUTREACH & KNOWLEDGE TRANSFER

Through forums, publications, and broader communications programs, TSAG reaches out to public and private transportation services organizations and technology research and development interests. Guided by its Strategic Plan, TSAG pursues programs and projects that directly advance the application of transportation safety technologies. Further, TSAG members share their expert knowledge and insight on transportation and first responder safety technologies through their communities of interest, stakeholders, and strategic partners.

Figure 1 illustrates the multi-directional knowledge and information flow through which TSAG reaches across transportation safety interests, to US DOT, and to its modal administrations. As the TSAG knowledge base is expanded and as its knowledge transfer flow matures, information exchange platforms and strategies will be leveraged through partnerships and with allied transportation operations and public safety interests.

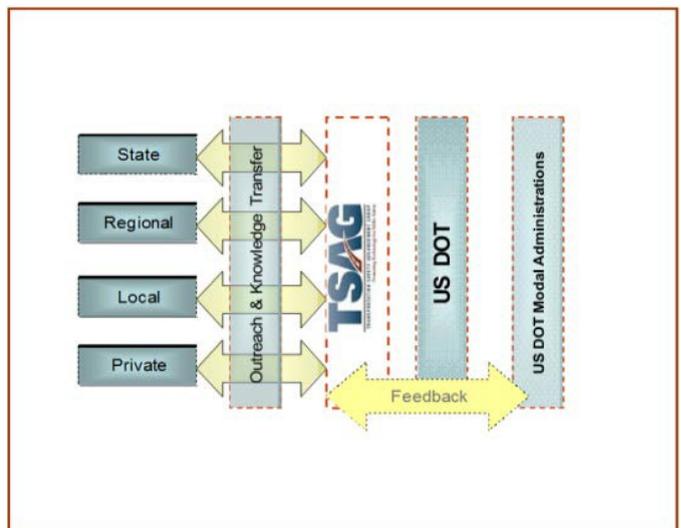


Figure 1: TSAG knowledge and information flows

10. TSAG ORGANIZATIONAL STRUCTURE

To help address evolving challenges and capture identified opportunities, the TSAG organizational structure (see Figure 2) engages leaders from US DOT and TSAG members. US DOT Modal Administrations provide policy and research insight, as well as important knowledge about federal policy, modal deployments and lessons learned.



Transportation Safety Advancement Group: 2019-2020 Strategic Plan

TSAG Organizational Structure

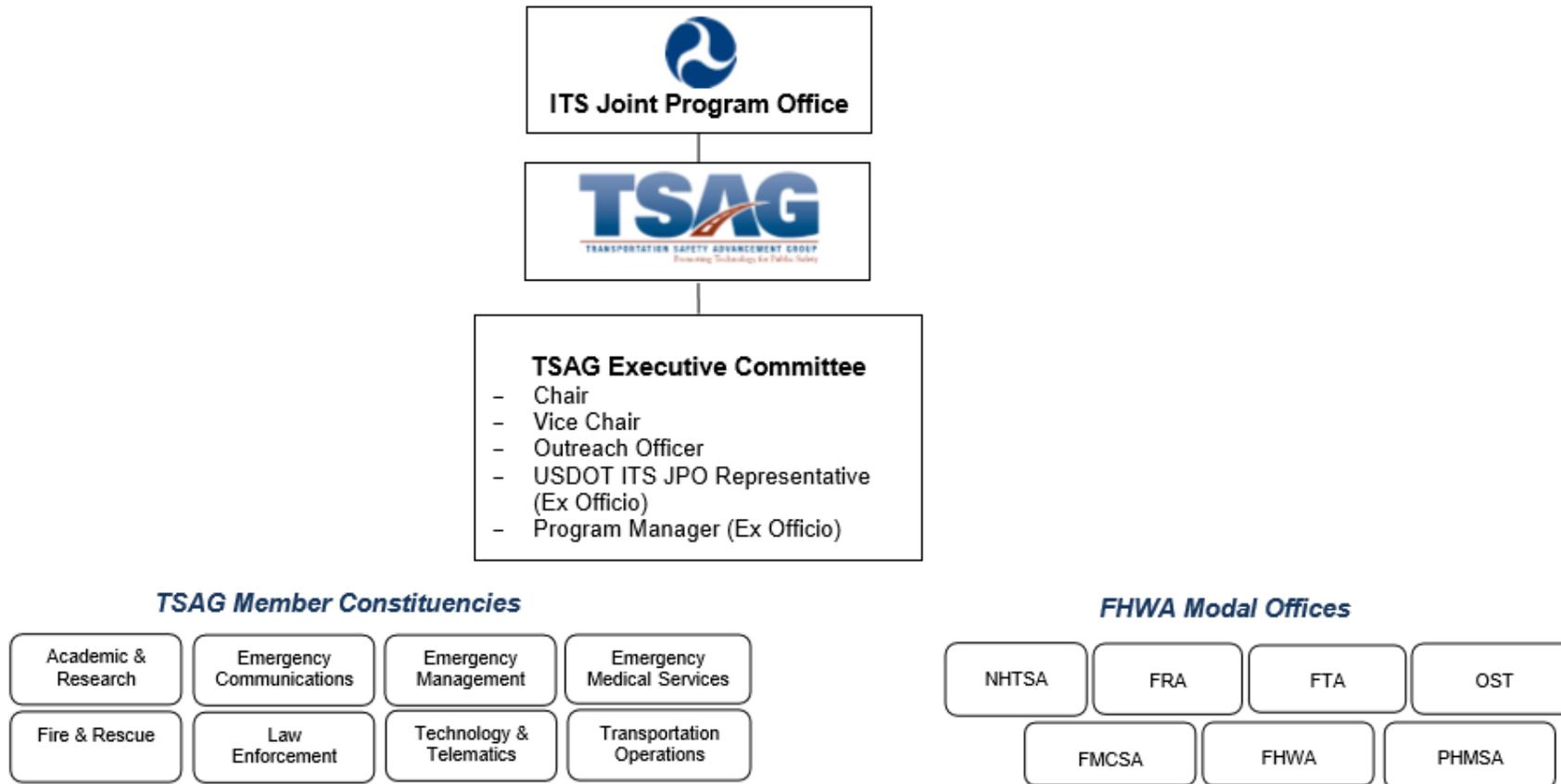


Figure 2: TSAG Organizational Structure

11. TSAG OPERATIONS SUPPORT

As enumerated in earlier discussions of its fundamental strengths, TSAG enjoys a three-part support base comprised of the professional staffs of the ITS Joint Program Office, TSAG Program Manager, and the TSAG's professional members, representing the broad knowledge and experience base of the transportation operations and public safety communities. The ITS Joint Program Office provides direct support through contractual underwriting of TSAG, and guides TSAG program management, administration, Work Plan implementation, policy and oversight. ITE provides front-end program management support, web-service management, internal alliances support, and technical/administrative support. TSAG members volunteer their professional experience and expert knowledge through direct engagement in Work Plan implementation, management guidance, pursuit of strategic alliances, and associated communications within and throughout interest communities and stakeholder organizations. Together, US DOT, ITE and TSAG members provide substantial investments of professional knowledge, experience, time, and financial resources, all toward serving TSAG in pursuit of its core mission and strategic objectives.

12. MEASURING OUR PROGRESS

Work Plan Tracking

The Work Plan sets forth how strategic goals will be pursued. As the Work Plan is implemented, progress reports, budget reviews, and effectiveness measurements will be a part of Work Plan tracking. Through these implementation and tracking tools, TSAG will measure its progress and levels of success as it pursues its core mission and strategic objectives. The Program Manager staff manages the TSAG Strategic Plan and its associated Work Plan, with milestone oversight of the TSAG Executive Committee, ad-hoc teams and at-large members. Work Plan budgets will be defined and managed through the Program Manager, in compliance with US DOT ITS JPO policies and procedures and contract requirements.

Risk Management

Specific elements of the Work Plan may not be risk averse. For example, risks associated with aggressive schedules, or expectations of volunteer members will need to be identified, weighed, and managed. Risk management will involve active tracking of known risks, identification of emerging risks, and the development of needed interventions or implementation strategy adjustments. Through risk management, TSAG will minimize potential for work plan implementation shortfalls and optimize levels of success.

Issue-Action Tracking

Issues affecting program implementation will be defined and tracked. Issues will be classified as policy, technical, or administrative, and will be addressed openly in the interest of members and stakeholders. Project implementation issues will be identified and tracked for proper management and disposition applying sound project management practices.

Status Reporting

Work Plan elements represent the core actions through which TSAG will pursue its mission and strategic goals. Each Work Plan element will be implemented through identified actions, milestone tracking, and implementation status reports delivered on a regular basis to TSAG members.

TSAG Image and Reputation

A final and key measure of performance comes through maturing TSAG image and reputation. This key measurement begins with TSAG partners, allied interests, and the ITS community at large. The Program Manager and the ITS Joint Program Office, as partners, will reflect a first view of the overall TSAG image and reputation as TSAG moves further into the public arena. Early actions include an improved TSAG website with news of current events and accomplishments.

