



Nationally, approximately **42,000** traffic-related fatalities occur each year. These deaths involve local citizens and occur on our streets, roads, and highways. Nearly half of these fatalities occur at the immediate crash scene.

Analysis of **TRAFFIC CRASHES** and **FATALITIES** involving vehicle-driver-roadway systems shows the following major causes:

- Driver error
- Inadequate vehicle occupant protection
- Hazards with the roadway/roadside environment
- Vehicle equipment failure

The biggest enemy of seriously injured crash **VICTIMS** is the clock! Rapid detection and response, medical treatment, transportation, and hospitalization are critical to survival. Seriously injured survivors of an initial crash can be saved if the length of time between crash occurrence and notification, response time to the crash scene, on-scene rescue time, transport time to hospital or trauma center, and **EMERGENCY RECOVERY TIME** are reduced.

THE TRANSPORTATION SAFETY ADVANCEMENT GROUP

Promoting Technology for Public Safety

ITS America's Transportation Safety Advancement Group is dedicated to enhancing traveler safety on our roadways through the application of advanced technologies and the facilitation of inter-discipline and inter-agency cooperation. *TSAG* serves as a vehicle for providing transportation operations and public safety-based input and guidance to the US Department of Transportation, ITS Joint Program Office. The ITS Joint Program Office serves as the principal guide on Intelligent Transportation Systems applications, on surface transportation operations and management, and on transportation safety technologies policy.

TSAG PUBLICATIONS SERIES

To help advance its mission, TSAG has produced a series of one-page pamphlets that address the "why" of each of its **eight interest community's** public safety focus, and to provide specific information about these communities' operational objectives, challenges, successes, and future directions. Publications are available at www.tsag-its.org.



TSAG OBJECTIVES

Through its Strategic Plan, its Annual Work Plans, and through its multi-level publications series, TSAG proposes to pursue and measure specific Intelligent Transportation Systems (ITS) objectives:

- Promote a national awareness and dialogue of transportation safety needs
- Advance technology-based applications to address multi-agency operational and emergency response solutions
- Develop, implement, and measure the effectiveness of mechanisms to provide useful transportation safety feedback to US DOT
- Create an awareness and value of why transportation and public safety professionals and allied stakeholders must coordinate operational responsibilities
- Strengthen partnerships in advancing knowledge of intelligent transportation systems as sources for transportation safety and transportation technologies information

TECHNOLOGY SOLUTIONS:

TSAG promotes the development and deployment of advanced transportation technologies to implement active safety measures to prevent crashes through surveillance systems to detect congestion, and employing interoperable communications. Together, these promote effective, coordinated multi-disciplined response strategies that deliver help to crash victims in time to save lives.

TSAG promotes advanced transportation technologies and standards to improve transportation operations in order to save lives, as well as protect incident victims and emergency responders.

THE TSAG GOAL

The fundamental TSAG goal is to optimize traveler and responder safety, through incident prevention, improved incident identification, appropriate response and rescue, and traffic incident scene management. All aspects of the TSAG goal are managed through effective communications, response strategies and protocols, working partnerships, operations procedures, guidelines, best practices, and ITS technology applications.



TSAG VISION

The TSAG vision is focused on the long-range, future state-of-being that its members collectively pursue. This broad statement inspires TSAG and its partners to unite behind a core purpose, recognizing its service to a broad range of stakeholders:

"Public safety services on and along the nation's highway system, enabled by seamless operations technologies, integrated across jurisdictions and transport modes, ensuring the safety and security of both travelers and of operations and public safety personnel who serve them, while optimizing the efficiency, environmental quality and mobility of transportation systems."

TSAG MISSION

The TSAG mission in turn describes an ideal state that members will continually work to achieve. Additionally, the TSAG mission focuses on who we are, how TSAG we will progress toward this horizon, and the focus of activities to serve its broad range of various stakeholders.

"The Transportation Safety Advancement Group is an assembly of multi-discipline professionals sharing a common concern for transportation operations and public safety. TSAG meets important needs of the US Department of Transportation, they communicate with public safety practitioners influencing and influenced by surface transportation systems. TSAG fills critical outreach gaps through information, education, and technology transfer among a diverse set of stakeholders. TSAG initiates programs that promote application of advanced technologies through inter-discipline, inter-agency and inter-jurisdiction collaboration and cooperation. These efforts overcome constraints of limited resources facing individual interest communities as they seek to enhance public safety programs within the nation's transportation systems."



*"As the Transportation Safety Advancement Group excites a national dialogue on promoting **TECHNOLOGY** for public safety, the ITS Joint Program Office, through its **PARTNERSHIP** with TSAG, looks forward to hearing from front line practitioners engaged in day-to-day transportation and public safety operations and management. **YOUR INSIGHT**, experiences and lessons learned will help bring into better focus the future of advanced technologies to improve **TRANSPORTATION SAFETY**, mobility and efficiency".*

*~Linda Dodge, Public Safety Programs Manager
ITS Joint Program Office
US Department of Transportation*



www.tsag-its.org



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TSAG INTEREST COMMUNITIES



LAW ENFORCEMENT

Law Enforcement serves as the first-line authority in incident response and management. Law enforcement professionals are uniquely engaged in the total spectrum of transportation operations and safety, including the fundamental elements of advance planning, or 'pre-event' interventions.

Police agencies are also involved in the day-to-day operations management and surveillance to identify infrastructure and technology applications deficiencies.

These enforcement professionals identify important public education opportunities through partnerships with transportation operations agencies, research institutions, the courts, and educational outlets.

LAW ENFORCEMENT AGENCIES *serve as the*
FIRST LINE
AUTHORITY IN *transportation management*

FIRE AND RESCUE

Fire and Rescue professionals serve fire prevention, fire safety, emergency medical services, and victim rescue needs. They respond and establish the primary framework for coordinated incident scene management, operating within a complex environment of risks and hazards associated with property fire, roadway traffic and public-highway operations.

These highly-trained professionals, supported by emergency services techniques and advanced technologies, continue to refine service-delivery strategies by deploying new technologies and applications protocols to meet evolving public safety challenges. These public safety professionals are committed to delivering high-quality emergency response and mitigation services focused on saving lives and property.

fire and rescue professionals
FIRST-RESPONSE
fire-suppression AND ASSOCIATED
EMERGENCY SERVICES



EMERGENCY MEDICAL SERVICES

Emergency Medical Services providers represent the first line of on scene medical care and transportation for victims in life-threatening situations. Current technology includes advanced medical devices, ambulance to hospital communications and collection and submission of data about patients.

The EMS community persistently pursues a national goal of creating a seamless nationwide network of coordinated and accountable state, regional, and local Emergency Medical Services and emergency care systems. The systems apply public health principles, data, and evidence as a basis for safe and effective care in day-to-day operations, as well as during catastrophic events.

emergency medical service
PROVIDERS
represent the *first line* OF ON SCENE
AND TRANSPORTATION FOR VICTIM'S MEDICAL CARE

EMERGENCY MANAGEMENT

Emergency Management services address the preservation of life and property against unplanned catastrophic events through:

- Public education and preventive management
- Definition of standards and emergency response management policy
- Continuing responder education and training
- Coordinated management of multi-level response to catastrophic events

At local and regional levels, emergency management services similarly address the coordination of communications and emergency response through multi-agency collaborative command centers, through which the leadership of key emergency management disciplines coordinate response priorities and strategies.

preservation of **LIFE**
and property against unplanned
CATASTROPHIC *events*



EMERGENCY COMMUNICATIONS

Emergency communications within the scope of transportation operations and public safety services requires a wide range of information in various voice and data formats delivered using different communication mediums.

As incidents are identified and emergency services are dispatched, real-time information becomes vital to defining the scope, circumstances and resources required at the scene. Life saving efforts of first responders and coordination of multiagency response is supported and managed using these mediums.

Ultimately, the goal of emergency communications is to facilitate response, provide the infrastructure to coordinate incident management, and share critical data.

involves various COMMUNICATION-MEDIUMS
and TRANSMISSION
of various data and data FORMATS

TECHNOLOGY AND TELEMATICS

Technology and Telematics represents a broad range of advanced technologies that, together, address the interface between drivers, the vehicle, and the roadway/roadside - all to improve safety, efficiency, economy, and environmental harmony.

Telematics aid in occupant and roadway safety, as well as, vehicle operations. In the future through in-vehicle electronic sub-systems, vehicles may communicate with one another, as well as roadway and roadside infrastructures, and vehicle-flow control devices. Communications between vehicles and between vehicles and roadway devices support broader transportation system management goals.

focused on crash
and incident
PREVENTION



TRANSPORTATION OPERATIONS

Transportation Operations professionals oversee and manage the movement of persons and goods through our transportation systems and multi-mode networks. Local, regional, and state transportation agencies collaborate to provide seamless transportation operations services through all routes, across all modes, and at all times.

Transportation operators have emerged as strong partners in multi-disciplined and inter-jurisdictional planning and operations coalitions for incident prevention, preparedness, and response and management strategies. Technology developers, disabled vehicle servicing, towing and clearance services, and traveler information systems play increasingly important roles in enhancing the safety and efficiency of transportation systems.

integrated systems and OPERATOR
partnerships promote EFFICIENT
TRANSPORTATION OPERATIONS AND
ADVANCE PUBLIC SAFETY

ACADEMIC AND RESEARCH

The Academic and Research community has long played key roles in the process of researching, testing, and applying advanced transportation technologies. The community includes a diverse set of institutions for higher learning, regional, and state-level departments of transportation, as well as private sector research centers.

Transportation technologies are typically assessed through the filter of a 'three-sided prism'.

1. operations and theory analysis
2. transportation policy analysis
3. technologies applications research

Across the nation, academic and research institutions investigate emerging transportation operations and public safety technologies.

developing TESTING
AND APPLYING ADVANCED
transportation technologies