

Bus Transit Safety & Security

Quarterly Newsletter

The Year in Review

The year 2008 marked an extremely productive and successful year for the Federal Transit Administration's (FTA) Transit Bus Safety and Security Program. FTA sponsored and co-hosted the first ever State Department of Transportation (DOT) Transit Bus Safety and Security Invitational Workshop held in March in Dallas, Texas. This Invitational Workshop was held in partnership with the American Public Transit Association (APTA), the Community Transportation Association of America (CTAA), the American Association of State Highway and Transportation Officials (AASHTO), and involved the active participation of numerous other transit bus industry stakeholders. FTA received a positive response following the event, and as a follow up to the Dallas Workshop, FTA began its state orientation seminar initiative, holding informational seminars on the FTA Bus Safety and Security Program in New Hampshire, Utah, Maryland, and California.

FTA continued in 2008 its voluntary onsite review efforts and conducted over a dozen reviews of rural (5311 grantees), and small

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Federal Transit Administration
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urban transit bus systems located across the country. Through these reviews, FTA provided technical assistance to the reviewed agencies while collecting hundreds of resources and potential best practices that can be used to help the industry improve its safety, security, and emergency preparedness performance.

FTA moved to the final phase of development of its web-based resource library and self-assessment tool that can be used by transit systems to assist in identifying their safety, security, and emergency preparedness strengths and areas in need of improvement. The website resource library features user-friendly search functions to give users instant access to over 1,000 technical assistance documents. All technical assistance materials are available for download, helping transit systems achieve their safety and security mission. FTA plans to fully deploy the resource library website in early 2009 and has worked closely with the Transit Bus Safety and Security Working Group members to ensure its usefulness to the industry.

FTA also began creating the first ever Report on Bus Transit Safety for the transit bus industry. The Action Plan is based on detailed quantitative analysis of industry ridership, accident, and security incident trends, and qualitative analysis of data gathered through the voluntary onsite review program and Working Group feedback. Using this information, FTA has identified a list of top ten safety and security priorities for the transit bus industry, which will be the focus of upcoming FTA technical assistance initiatives. FTA is currently finalizing the Transit Bus Safety & Security Action Plan and anticipates publishing it in the coming months.

As 2008 comes to a close, FTA would like to extend its deepest appreciation to the transit bus industry; its Memorandum of Understanding (MOU) partners (the American Public Transportation Association (APTA), the American Association of State Highway and Transportation Officials (AASHTO), and the Community Transportation Association of America (CTAA); State DOTs; and those transit systems that volunteered their time and resources to participate in FTA's onsite review program and each of the other program activities described above. FTA is committed to providing the technical resources, training and guidance needed to meet the industry's evolving safety and security needs. In 2008, this could not have been accomplished without the support of all industry participants. FTA looks forward to supporting further advancements in transit bus industry safety and security program performance over the coming year and remains committed to its partnership with its MOU partners and the wide spectrum of transit bus industry stakeholders.

FTA Orientation Seminar Initiative

Feedback received from FTA's first ever State DOT Transit Bus Safety and Security Invitational Workshop, which was held in Dallas, Texas in March 2008 indicated industry stakeholders' strong desire for FTA to hold informational seminars on the FTA Bus Safety and Security Program in every state. FTA has undertaken a new orientation seminar initiative to meet this need. The Orientation Seminars are designed to fulfill two primary objectives:

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1. To provide an overview of FTA's Transit Bus Safety and Security Program, describing and demonstrating the various program components.
 2. To provide a forum to solicit feedback from State DOT staff and individual transit system managers on program design and critical issues that the program needs to address.
- Understanding the structure, use, and value of the FTA Bus Safety and Security website.
 - Utilizing the website to locate and download information that will fill identified gaps and needs.
 - Creating a plan to achieve agency safety, security, and emergency preparedness excellence.

FTA designed the State DOT Orientation Seminars to be delivered in partnership with each State DOT in a format that could have the greatest positive impact on the industry. FTA has ensured the seminars serve as an effective mechanism for familiarizing industry stakeholders with program objectives, and that they are useful in developing and making available effective practices and resources to address the needs of the nation's transit bus systems and agencies, regardless of their size, level of funding, or operational characteristics. The seminars are delivered in a manner that fosters program stakeholder interaction and the sharing of challenges and best practices.

In August 2008, FTA kicked-off the Transit Bus Safety and Security Orientation Seminar Initiative with its first delivery in Manchester, New Hampshire. The seminar focused on:

- Understanding the new direction and components of FTA's Transit Bus Safety and Security Program.
- Identifying and explaining the Elements of Safety, Security, and Emergency Preparedness Excellence.
- Performing an assessment of a transit bus system's safety, security, and emergency preparedness programs.

FTA received positive feedback from seminar participants following the first seminar in New Hampshire. FTA has since held similar seminars in Maryland, Utah, and California. As we enter the new year, FTA is planning to hold State DOT Orientation Seminars in more states yet to be identified.

Seminar Feedback:

"I now have the info needed to put together a good Driver Handbook and training regimen."

"Great Resource. Long Overdue. Will really help both small and large transit operators."

"This is an incredible program/website that gives the tools we need to receive the best technical assistance available. I am excited and feel re-energized in my personal ability to help my sub-recipients reach their potential. Thank you!!"

"The sharing of information was great. The instructors were very welcoming, knowledgeable, and very enthusiastic about the program."

Industry Accident and Incident Trend Update

The nation’s public transit bus community consists of nearly fourteen hundred Section 5311 rural public transit systems and several hundred Section 5307 small and large urban transit systems that provide directly operated and purchased transportation operations and services to the traveling public each day. These services include commuter, fixed route, general public demand response, ADA paratransit, and vanpool services. When combined, Section 5307 and Section 5311 bus transit operations provide an average of nearly **5.5 billion unlinked passenger trips** and nearly **21 billion passenger miles** of service to the commuting public each year.

As discussed in the Fall 2008 Quarterly Newsletter, FTA uses qualitative and quantitative analysis and performance measures to gain a clearer understanding of the transit bus industry’s greatest needs. This analysis is performed using the National Transit Database (NTD), to which all recipients of Section 5307 and 5311 formula program funds are

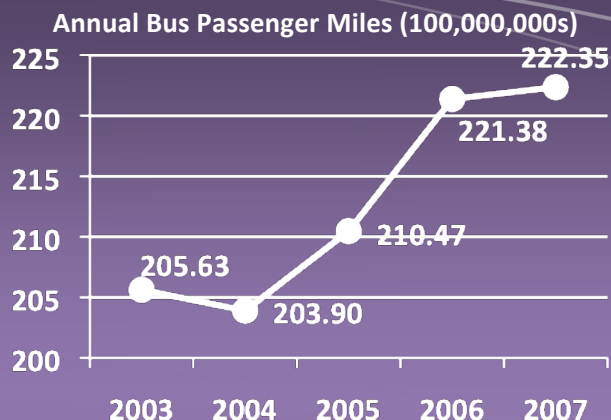
required to submit data. Although currently available NTD reports do not clearly distinguish between the two types of operations, it is the most comprehensive dataset available at this time.

Because of the large differences that exist between transit bus systems and the modes of service they offer, FTA develops and compares annual accident, injury, fatality, and property damage rates based on annual ridership totals. Accidents, injuries and fatalities are standardized by 100 million passenger miles. In this manner, FTA is able to use this data to draw clearer comparisons between modes of transportation and the severity of accident trends in relation to rising or falling annual ridership reported by the industry. FTA can then determine if accident rates are rising as a result of increased ridership and therefore increased probability, if the severity of accidents occurring within the industry is increasing, or if both probability and severity factors are increasing. As shown below, industry ridership has steadily increased over the past 5 years.

Using annual standardized passenger miles, FTA has determined that since 2003 transit bus industry accident, injury, and fatality rates have increased.

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Bus Transit Annual Passenger Miles	
Year	Passenger Miles
2003	20,562,963,489
2004	20,390,051,971
2005	21,047,261,061
2006	22,137,959,092
2007	22,235,426,236



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Comparison of industry ridership data to standardized accident, injury and fatality data suggests that while ridership has grown annually at a relatively steady pace, the bus industry's accident rate has risen at a greater rate. In particular, the accident rate increased by 32% between 2005 and 2006, and by another 25% between 2006 and 2007. While part of this increase is due to the enactment of SAFETEA-LU in 2005, which greatly increased the number of transit system reporting to NTD, it is important to recognize that the bus industry's accident rate had increased by nearly 34% between 2003 and 2004, prior to the enactment of SAFETEA-LU. This further substantiates the need for industry improvement in safety and security performance.

If a key objective of system safety and security programs is to *prevent* accidents and incidents, then additional analysis is also necessary to identify the *level of influence (LOI)* transit bus systems may have over the preventability of such events within their systems. For example, it is difficult for a transit bus system to implement strategies that effectively influence and prevent the actions of an individual

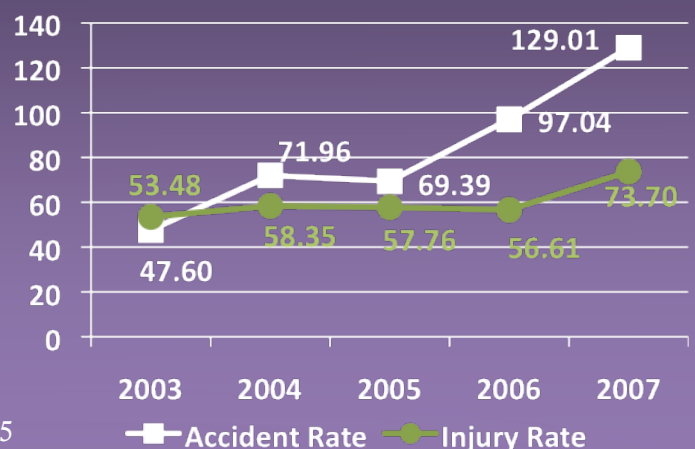
attempting suicide, or to prevent collisions caused by the illegal actions or inattentiveness of other motorists. In contrast however, a transit bus system does have influence over how its bus drivers/operators perform their duties and can implement training and supervisory monitoring programs to improve driver/operator safety related performance.

Recognizing these LOI issues, FTA also calculates industry accident, injury, and fatality rates without the inclusion of reported suicides and security related incidents. Despite the removal of suicides and security related incidents from the NTD data set, analysis still shows an increase in the industry accident and injury rates since 2003. Overall, this safety and security related data reinforces the importance of an increased industry emphasis on initiatives, such as the FTA Bus Safety and Security Program, which can help increase safety at bus agencies and help to curb this identified trend. It is critical that FTA, State DOTs, individual transit agencies, and all industry stakeholders partner in this effort.

Bus Accident, Injury and Fatality Rates, 2003 – 2007, Standardized by 100,000,000 Passenger Miles

Year	Accident Rate	Fatality Rate	Injury rate
2003	47.60	0.39	53.48
2004	71.96	0.36	58.35
2005	69.39	0.29	57.76
2006	97.04	0.41	56.61
2007	129.01	0.41	73.70

Bus Accident and Injury Rates: 2003 - 2007



Bus Evacuation Procedures

One of the most important responsibilities for a bus driver/operator is determining when and how to evacuate passengers from a transit vehicle either because of fire or the risk of fire or because the bus is incapacitated in a dangerous location. This evacuation can be complicated enormously when passengers are either injured or have a disability. Further, particularly in fire situations, the evacuation must take place as rapidly as possible. Drivers/operators, dispatchers, and front line supervisors should be provided with guidelines consistent with agency policy on vehicle evacuation protocol and receive “hands-on” training on those guidelines.

Generally accepted guidelines for transit vehicle evacuation in a potentially dangerous situation involving fire or other hazards include the following:

1. ONLY EVACUATE the vehicle when for safety reasons it is necessary to do so.
2. DO EVACUATE the vehicle if any of following conditions exist:
 - The vehicle is in a dangerous location and cannot be moved
 - You see fire or see or smell smoke
 - You see leaking fuel coming from or underneath the vehicle
 - Any other conditions that would make it safer for the passengers to evacuate the vehicle
3. Once a decision to evacuate is made, speed of evacuation is essential, especially with threat of fire.
4. Calmly tell your passengers what you are going to

do, tell them which exit(s) to use and where you want them to wait, stressing that they must stay clear of the bus and clear of traffic hazards.

5. Assess the condition of passengers to be evacuated and what assistance will be required.
6. Ask for assistance from ambulatory passengers in evacuating passengers who are injured or have a disability, which would prevent self evacuation.
7. Evacuate all ambulatory passengers first to clear space on the bus, with the exception of anyone who agreed to assist in the evacuation of non-ambulatory passengers.
8. Make sure all passengers assemble in a safe location well away from the vehicle.
9. When evacuating non-ambulatory or wheelchair passengers, slide passengers out of their chairs and drag or carry them and any non-ambulatory, injured or unconscious passenger down the aisle and out the door.
10. Dragging of non-ambulatory, injured or unconscious passengers should be done by bending at your knees and grasping and pulling underneath the armpits of the passenger.
11. If the doors of the vehicle are blocked or non-functioning, evacuate any non-ambulatory, injured or unconscious passenger by getting them through emergency exit windows or roof hatches as the situation, vehicle position and vehicle configuration may dictate, preferably using assistance as may be available outside the vehicle.
12. Await emergency responder arrival and follow their direction.
13. Complete required forms and documentation.

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Security & Emergency Preparedness

Identifying, Reporting, and Responding to Suspicious People, Activities, Items, and Vehicles

Bus operators/drivers, dispatchers, and front line supervisors have accurately been described as being the “eyes and the ears” of the transit system and the community it serves. These individuals are the most familiar with the transit system’s operating environment and are therefore in a unique position to identify and report “out of the ordinary” or suspicious activities, people, items, and vehicles. Further, frontline transit employees may have to respond to security threats. Doing all this both safely and effectively requires training. To meet this training need, FTA recommends several courses developed and offered by the National Transit Institute (NTI). These courses include:

- **System Security Awareness for Transit Employees** – intended for front-line employees and supervisors who have direct contact with the public or the vehicles and facilities used by the public. This course covers skill sets for observing, determining, and reporting activities, packages and substances that are suspicious or out-of-place. It encourages employees to use common sense when faced with various circumstances so operations can run safely, smoothly, and efficiently. A focus is also placed upon an employee’s initial priorities at the scene of a threat or incident.
- **Security Community Mobility** – intended for all rural, small urban, and community transportation employees and supervisors who have direct contact with the public or the vehicles and facilities used by the public. This course discusses potential threats to community transportation systems and provides employees with techniques for improving security and preventing crime and acts of violence against the system, passengers, and themselves. Emphasis is placed on employee preparation for the workday, workplace violence prevention, and increasing transportation security. Employees are again trained to use common sense, and to observe and report perceived threats or dangerous events so that operations can run safely, smoothly, and efficiently.
- **Terrorist Activity Recognition and Reaction** – intended for transit employees that have direct contact with the public. This course is designed to provide participants with the knowledge and skills to explain the importance of identifying and reporting pre-attack terrorist activity; to recognize the difference between normal, suspicious, and dangerous activity; to define their role in recognizing and reacting to suspicious activity; and to describe their immediate actions when confronted with dangerous activity.

In 2003, FTA launched *Transit Watch*, a nationwide public awareness outreach campaign that encourages the active participation of transit passengers and employees in maintaining a safe transit environment. The campaign was also designed to help foster the role of transit as a safe haven in communities across the country. The program’s goal was to create a useful toolkit that enabled a transit property to customize the materials

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with its own information and select the campaign and accompanying visuals that would most effectively address the community to maximize interest and involvement. For more information on Transit Watch, visit: transit-safety.volpe.dot.gov/Security/TransitWatch/.

Dangerous Passengers on Bus

The transit bus environment becomes frightening to both the bus driver/operator and riders when an aggressive and potentially dangerous passenger acts in a threatening manner. This threatening behavior can be generated by individuals who are mentally unstable, under the influence of alcohol or drugs, have criminal intent, or may even be a domestic or international terrorist. The possibility of encountering such a passenger exists on transit systems of all sizes and modes, from the largest urban operation to a small rural operation. It is critical that the transit employee who is driving the bus be trained on guidelines for responding to potentially dangerous situations so they can protect their safety and the safety of their passengers. These guidelines often take the form of system policy and generic protocols. The training based on these guidelines must provide the bus driver/operator, dispatcher, and front line supervisor with basic steps to take when responding to dangerous passengers.

There are certain generally accepted steps endorsed by law enforcement and other subject matter experts for responding to a dangerous passenger. These steps providing guidelines for bus driver/operator behavior in any situation where a passenger is acting in an aggressive and threatening manner include:

- The first priority is to protect self and others

- Stay calm; maintain self control; do not over react
- Do not say anything to escalate the situation
- Behave in a non-threatening way in voice and action
- Alert dispatch and/or emergency responders using technology, radio codes, or pre-determined alert phrases
- If it is safe to do so, provide dispatch/responders with information on bus location, nature of incident, description of perpetrator, and any weapons involved
- Look for ways to defuse the situation through empathetic conversation with the perpetrator
- Comply with the perpetrator's wishes
- Do not make sudden movements
- Do not attempt to grab a perpetrator's weapon
- Do not try to escape if it puts you at risk
- If your vehicle is in motion and it is possible, park it in a public, well lighted location
- If your vehicle is stopped and it is possible, open the doors or keep the doors open to allow passengers or the perpetrator to leave the vehicle
- If violence is directed toward a passenger, intervene only if it is safe to do so
- Await emergency responder arrival and follow their direction
- Complete required forms and documentation

For additional information, please access FTA's Immediate Actions document located at: <http://transit-safety.volpe.dot.gov/Security/SecurityInitiatives/ImmediateActions/HTML/IAs.html>

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National Incident Management System (NIMS)

On February 28, 2003, President Bush issued Homeland Security Presidential Directive-5, directing the Secretary of Homeland Security to develop and administer a National Incident Management System (NIMS) to provide a consistent nationwide template and standard system for federal, state, tribal, and local governments to work together to prepare for, respond to and recover from domestic incidents, regardless of their size, location, cause or complexity. On September 8, 2004, a letter to the Nation’s Governors detailed the initial steps needed to implement NIMS. The activities outlined in that letter that have since been defined as objectives provide the foundation for current NIMS compliance requirements. Since 2004, the Federal Emergency Management Agency (FEMA) has added additional objectives developed to enhance the way incidents are managed at all levels of government. Overall, these objectives are designed to ensure appropriate preparedness, planning, training, incident command procedures and protocols, and communication sharing. Further, the objectives focus on creating mechanisms to deploy, track, recover, demobilize, and provide reimbursement for resources utilized during response and recovery.

On the surface, these objectives often appear to be beyond the scope of the nation’s transit bus systems emergency preparation and response responsibilities. However, it is important to recognize that as a public transportation service, transit systems may be called upon by their respective states, local governments, tribal nations, and/or the federal government to help

achieve NIMS objectives. As such, it is important that the transit bus industry become familiar with NIMS and the National Response Framework (NRF), which delineates the nation’s response doctrines, responsibilities, and structures. To accomplish this, FTA recommends that the transit bus industry’s executive management, and operations/maintenance management and supervision become NIMS certified by completing the following courses:

- IS-100 Introduction to the Incident Command System (ICS)
- IS-700 NIMS
- IS-800 NRF

Each of these courses is offered by FEMA via the internet at <http://www.fema.gov>. NTI is also currently developing a “NIMS for Transit Professionals” course that will be available in the coming year. Additionally, FTA recommends that executive management gain additional familiarity with NIMS, as needed, by visiting the NIMS website at <http://www.fema.gov/nims/>.

For more information regarding NTI and TSI Training opportunities, use the following contacts:

<p>Transportation Safety Institute www.tsi.dot.gov Radonna Snider Radonna.snyder@dot.gov</p>	<p>National Transit Institute www.ntionline.org Coleen Meyer coleenm@rutgers.edu</p>
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FTA funds both NTI and TSI courses

Please look for the TSI Safety and Security Training feature in the Spring ‘09 Edition of the *Bus Safety and Security Newsletter*

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Coordinating with Emergency Responders

FEMA defines the long-term goal of NIMS as providing a consistent framework for all aspects of emergency management and incident response that is sustainable, flexible, and scalable to meet changing incident needs and to allow for integration of other resources from various partners through mutual aid agreements¹ and/or assistance agreements. In order to meet this goal, states, territories, tribal nations, and local governments must be capable of coordinating with emergency responders during the planning, preparation, response, and recovery phases of emergencies. Likewise, to support this framework and to coordinate with emergency responders in a manner that is compliant with NIMS, transit bus systems must understand, be capable of functioning within, and be supportive of the Incident Command System (ICS) and Unified Command (UC) structure.

The ICS is a widely applicable management system designed to enable effective and efficient incident management by integrating facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. It is built on a top down perspective with responsibility and performance beginning with Incident Commanders responsible for the overall management of the incident. On most incidents, the command activity is carried out by a single Incident Commander; however, the need for a UC occurs

¹ APTA has developed the Emergency Response Preparedness Program (ERPP), an online "mutual aid" tool designed to assist in times of these unfortunate disasters and other situations. Visit: <http://www.aptaerpp.com/>

when an incident affects the statutory responsibility of more than one agency or jurisdiction. The UC provides guidelines to enable agencies with different legal, geographic, and functional responsibilities to coordinate, plan, and interact effectively.

The process of coordinating with emergency responders requires that transit bus system executive managers first identify and form relationships with the responders in their areas. FTA recommends that transit bus systems participate in Local Emergency Planning Committees (LEPC), including those that may be organized by the State Transportation Agency (DOT), and/or State Emergency Management Agency or organization. At a minimum, participation of these committees enables the transit bus system to become more familiar with the preparedness and response plans, procedures and actions that will be taken during emergency incidents occurring within their regions. More importantly however, is the value that each transit bus system can add to emergency planning and preparedness process by contributing the knowledge and specialized expertise they may have pertaining to equipment necessary to transport the elderly, disabled, or other special needs individuals during emergency incidents.

FTA recommends that transit bus systems ensure the emergency responders within their regions are familiar with the types of equipment being operated by the system. This includes any specialized operating requirements, shut-down procedures, lift operation requirements, and on-board safety equipment that emergency responders may need to be familiar with to safely respond to emergencies involving the transit bus system, including how to best extricate individuals trapped in damaged or disabled vehicles.

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To coordinate with emergency responders:

1. Designate a point of contact for the transit system.
2. Identify and contact the appropriate emergency response liaison.
3. Establish a time to meet with the emergency response liaison to discuss applicable planning, preparedness, response and recovery activities.
4. Identify and participate on LEPCs, and other County and State Emergency Planning and Management Committees.
5. Review the State's Emergency Plans and Procedures and supporting annexes to identify any activities the transit system may be called upon to support.
6. Identify the resources needed to support emergency response activities and develop and sign memorandums of understanding and mutual aid agreements with applicable emergency responders and sister agencies.
7. Use scenario based, functional, and capabilities-based planning to depict how the transit system will respond to the range of emergency situations that may unfold.
8. Develop or revise supporting materials, including any specific plans, procedures, operating manuals, rulebooks, or other documents and job aids needed to support and direct response efforts.
9. Develop a coordinated plan of training drills and exercises that test response plans and procedures.
10. Establish an on-going review and assessment process for emergency response plans, procedures.

We Want Your Feedback

To provide feedback pertaining to this issue of the FTA Bus Transit Safety and Security Newsletter; to obtain additional information pertaining to any of the topics discussed in this issue; or to request that a specific topic of interest to your organization be discussed in upcoming issues, please contact:

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About the Newsletter

The FTA Transit Bus Safety and Security Newsletter is a technical assistance newsletter published quarterly by the Federal Transit Administration. This Newsletter is distributed free to National and State Transit Associations, to State Departments of Transportation and other industry safety, security and emergency preparedness stakeholder. The Newsletter is also available on the FTA Bus Safety and Security Program website for use by transit agency management and staff.

