



U.S. Department of Transportation  
Federal Transit Administration  
Office of Safety and Security

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### Coming in Future Issues

Return of Counsel's Corner

Internal Safety Audit Process

Highlights from 3<sup>rd</sup> Annual State Safety Oversight Workshop

# State Safety Oversight

Fall 1999

Issue 6



## Help with Hazards

Since the fall of 1998, the Federal Transit Administration's (FTA) State Safety Oversight Audit Program has produced a number of findings regarding the application of the *hazard identification and resolution process* at the rail fixed guideway systems (RFGS) affected by the Rule. While States are successfully ensuring the inclusion of this process in their Program Standards and in RFGS System Safety Program Plans (SSPPs), its actual implementation by the affected agencies is inconsistent and does not always reflect the procedures approved by the Oversight Agencies.

Implementation of this process is required by 49 CFR Part 659.39, which specifies that RFGS must notify the Oversight Agency of *unacceptable hazardous conditions*. The Rule defines an *unacceptable hazardous condition* as "a hazardous condition determined to be an 'unacceptable hazardous condition' using the APTA Guideline's Hazard Resolution Matrix (American Public Transit Association, *Manual for the Development of Rail Transit System Safety Program Plans*, Checklist Number 7)."

The hazard analysis process is a critical part of an agency's System Safety Program. This process provides a mechanism, accessible to all levels of the organization, by which hazards are identified, analyzed for potential impact on the operating system, tracked, evaluated, and resolved.

As required by the Rule, the majority of RFGS directly reference the APTA Manual text and matrix from Checklist Number 7 in their SSPPs. Checklist Number 7 recommends that "each transit system must ensure that its safety methodologies are tailored to the unique capabilities of its organization." The Checklist also suggests that "a properly functioning System Safety Program must explain how the Hazard Resolution Process of the respective transit system is carried out and documented." Further, the

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## Cover Story

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Checklist states "that Hazard Identification is an ongoing process, viable throughout the system life cycle."

However, in spite of these recommendations, RFGS practices, as observed by FTA's Audit Program, do not always specify either the terms of unacceptable hazardous condition (UHC) notification to the Oversight Agency or the specific events during transit operations for which a hazard analysis must be performed.

**Notification.** FTA has interpreted the definition of UHC, and the subsequent notification requirements, to cover the occurrence of all hazardous conditions that fall into the "unacceptable" category in the Hazard Resolution Matrix specified in the APTA Manual. *In other words, if hazard analysis reveals an "unacceptable hazardous condition," the Oversight Agency should be notified, even if this condition is quickly corrected by the rail transit agency.*

FTA's Audit Program has discovered that UHCs, as determined by the RFGS, are not always communicated to the Oversight Agency, as is required by Part 659. One of the reasons that RFGS struggle with implementing this requirement is that, in a majority of the incidents, the occurrence of an UHC is readily apparent, obvious, and requires immediate resolution during operations (i.e., suspension of service, removal of vehicle from service, etc.). Rarely is formal analysis performed in these instances. Therefore, documenting the occurrence of the UHC is viewed by the transit agency as an additional and unnecessary reporting burden. These agencies believe that, if they have addressed the UHC, then the condition no longer exists, and therefore does not have to be reported to the Oversight Agency. This practice is in direct opposition to the intent of FTA's Rule, which requires Oversight Agency notification of the occurrence of

these conditions, whatever their corrected status. Further, the Rule requires the RFGS to submit to the Oversight Agency, for review and approval, both an investigation report (if the Oversight Agency has designated this responsibility to the RFGS) and a Corrective Action Plan (CAP) describing how the identified UHC will be resolved. These activities are central to the effective implementation of FTA's Rule and must be performed for each identified UHC. Oversight agency use of the sample UHC Notification Form, located on page 13, should effectively address this problem.

**Performing Hazard Analysis.** To support the use of the hazard analysis process specified in Checklist Number 7, FTA recommends that the Oversight Agency's Program Standard require the RFGS SSPP to provide a clear description of the hazard classification system, including explicit definitions for each category of hazard severity and probability. Quantitative criteria, such as those recommended in the draft Military Standard 882-D (see box below), can be particularly helpful in clarifying distinctions among categories. Further, the Oversight Agency and transit agency should work together to develop the framework—reflected in

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### ***MIL-STD-882D***

The Department of Defense is converting MIL-STD-882C into a *Standard Practice*, referred to as MIL-STD-882D. Not yet formally approved, MIL-STD-882D updates MIL-STD-882C by creating a performance standard (rather than a series of tasks) to outline the primary requirements for conducting a system safety effort. The draft is available at:

[www.afmc.wpafb.af.mil/organizations/HQ-](http://www.afmc.wpafb.af.mil/organizations/HQ-)



## TSI Classes

In 1998, the Transportation Safety Institute (TSI) established a certification for *Transit Safety and Security Specialist*. This certification is available to any participant who has completed TSI's series of designated transit safety and security courses within three years (since 1996). These courses include the following:

- Transit System Safety
- Rail System Safety
- Transit Industrial Management
- Transit System Security
- Effectively Managing Emergencies
- Transit Rail Accident Investigation
- Fundamentals of Bus Accident Investigations.

**Transit System Safety** is a 2-day workshop that introduces course participants to the basic system safety concepts. This course identifies key system safety principles and highlights industry "best practices" for addressing them. Topics to be covered include the following:

- Developing and implementing a System Safety Program Plan
- Performing hazard analysis
- Improving safety accountability
- Using behavioral safety principles to promote improved safety performance

This course is also pre-requisite for any students registering for **Rail System Safety** or **Transit Rail Accident Investigation**. *Rail System Safety* is a 3-day course that emphasizes state safety oversight regulations and their application in the rail transit environment. This course provides participants with (1) an understanding of the benefits of system safety and (2) a set of tools for developing and implementing effective System Safety Programs. *Transit Rail Accident Investigation* is a 4 ½ day course that outlines the fundamentals of investigating rail transit accidents, including on-scene data collection, witness interviews, measurements and



## Classes

TSI Class schedule for FY2000  
(October 1, 1999 – September 30, 2000)

### Rail Incident Investigation

Portland, OR	November 15-19, 1999
Orange, CA	March 6-10, 2000
Philadelphia, PA	March 27-31, 2000
Oakland, CA	July 17-21, 2000

### Transit System Safety & Rail System Safety

St. Louis, MO	January 24-28, 2000
Washington, DC	April 10-14, 2000
Chicago, IL	August 21-25, 2000

### Transit System Safety

Dallas, TX	December 1-2, 1999
Las Vegas, NV	February 23-24, 2000

### Transit Industrial Safety Management

Dallas, TX	February 15-18, 2000
Las Vegas, NV	April 11-14, 2000

For more information, please contact:

Ms. Cheryl Ogren  
Manager, Transit Division  
DTI-80  
Transportation Safety Institute  
P.O. Box 25082  
Oklahoma City, OK 73125-5050  
Phone: (405) 954-3682  
Email: [cheryl\\_ogren@tsi.jccbi.gov](mailto:cheryl_ogren@tsi.jccbi.gov)



## *Classes, cont.*

*(Continued from page 3)*

drawings, determining probable cause, and documenting findings in an accident investigation report.

FTA highly recommends that oversight agency personnel, as well as safety, operations, and management staff from rail transit systems, attend the TSI training and obtain the *Transit Safety and Security Specialist* certificate.

## Hazard Analysis Sidebar

Hazard analysis can be defined as a process for utilizing all known safety data on a system (1) to identify all possible hazards, (2) to develop controls that mitigate or eliminate the hazards, and (3) to verify that selected controls actually will reduce the dangers associated with the hazards to an acceptable level. When developing and documenting a system for the evaluation of identified hazards, the rail transit agency should address the following issues, at a minimum:

- ◆ Hazard severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel error; environmental conditions; design inadequacies; procedural deficiencies; or system, subsystem or component failure or malfunction as shown in the Table below.

HAZARD SEVERITY CATEGORIES

Description	Category	Definition
CATASTROPHIC	I	Death, system loss, or severe environmental damage.
CRITICAL	II	Severe injury, severe occupational illness, major system or environmental damage.
MARGINAL	III	Minor injury, minor occupational illness, or minor system or environmental damage.
NEGLIGIBLE	IV	Less than minor injury, occupational illness, or less than minor system or environmental damage.

- ◆ Hazard probability. The probability that a hazard will be created during the planned life expectancy of the system can be described in potential occurrences per unit of time, events, population, items, or activity. Assigning a quantitative hazard probability to a potential design or procedural hazard is generally not possible early in the design process. A qualitative hazard probability may be derived from research, analysis, and evaluation of historical safety data from similar systems. Supporting rationale for assigning a hazard probability shall be documented in hazard analysis reports. An example of a qualitative hazard probability ranking is shown in the Table on the next page.



# Technical Assistance

## HAZARD PROBABILITY CATEGORIES

Description	Level	Specific Individual Item	System
FREQUENT	A	Likely to occur frequently	Continuously experienced
PROBABLE	B	Will occur several times in the life of an item.	Will occur frequently
OCCASIONAL	C	Likely to occur some time in the life of an item	Will occur several times
REMOTE	D	Unlikely but possible to occur in the life of an item	Unlikely but can reasonably be expected to occur
IMPROBABLE	E	So unlikely, it can be assumed occurrence may not be experienced	Unlikely to occur, but possible

(Continued on page 8)



## On the Horizon...

### New Starts

FTA is in the process of reaching out to six states with technical assistance to guide them in the implementation of 49 CFR Part 659. Shortly, these states will begin to formalize their plans to meet the requirements expressed in FTA's State Safety Oversight Rule. The table below outlines projects currently under development within each state.

FTA has extended invitations to the 1999 Workshop as a way to introduce state representatives to their peers and begin a communication process that will inevitably aid the "new states" in attaining upcoming State Safety Oversight milestones.

State	Location of Project	Project	Project Phase
Arizona	Phoenix	Central Phoenix-East Valley LRT	Preliminary Engineering
Arkansas	Little Rock	River Rail Trolley	Preliminary Engineering
Minnesota	Minneapolis	Hiawatha Corridor Light Rail	Preliminary Engineering
Puerto Rico	San Juan	Tren Urbano Heavy Rail	Construction
Utah	Salt Lake City	Transit Express (TRAX)	Construction
Wisconsin	Kenosha	Kenosha Streetcar Circulator	Construction



## SSO Audit Program

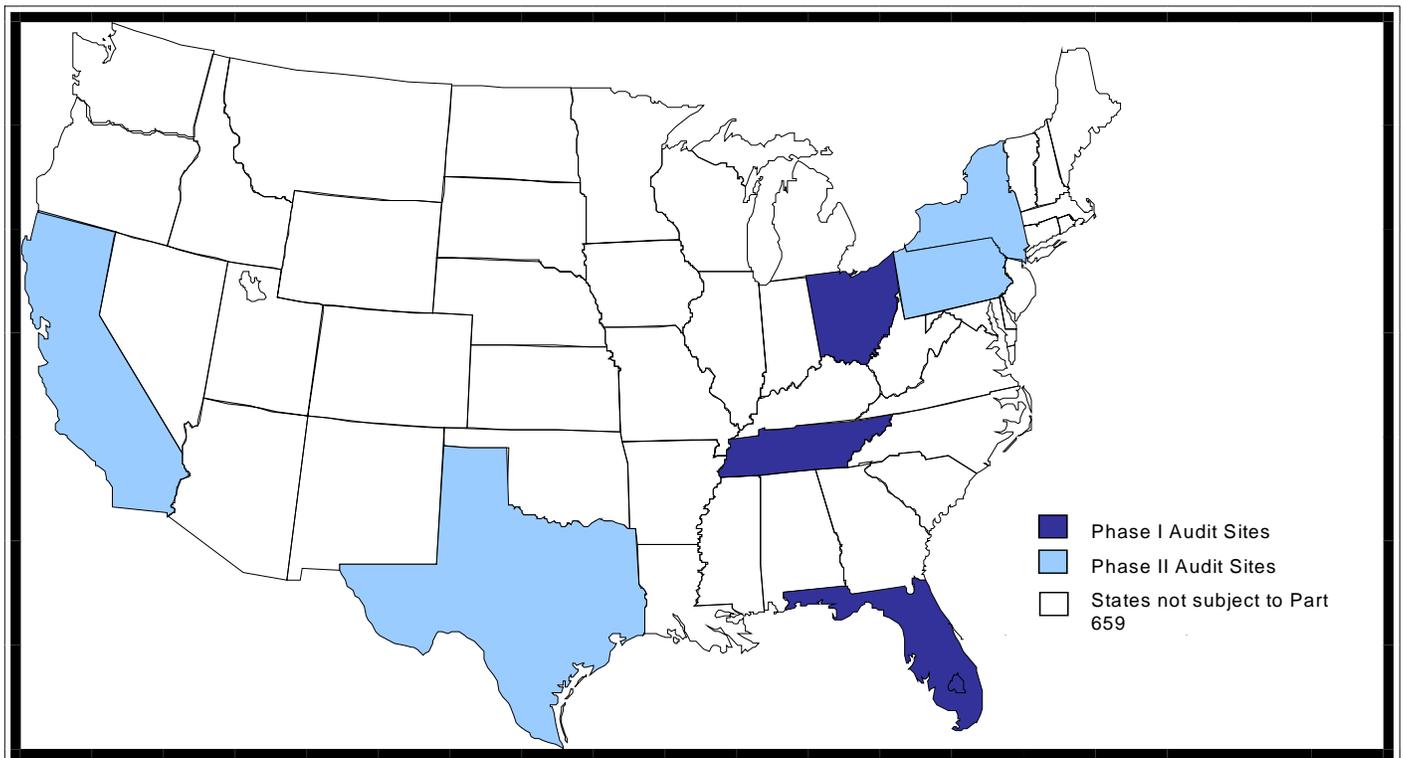
The Federal Transit Administration (FTA) has completed seven audits of oversight agencies since the program began in the fall of 1998. As indicated the map below, the following oversight agencies have been audited:

- ◆ Ohio Department of Transportation
- ◆ Florida Department of Transportation
- ◆ Tennessee Department of Transportation
- ◆ California Public Utilities Commission
- ◆ Texas Department of Transportation
- ◆ New York Public Transportation Safety Board
- ◆ Pennsylvania Department of Transportation

FTA issues two types of findings at the audits. A **deficiency** is an area in which the oversight agency fails to comply with a requirement in the FTA regulation or does not follow one of the procedures

set forth in its own System Safety Program Standard. If the oversight agency does not correct the deficiency, FTA could withhold funds. FTA issues a finding of an **area of concern** when it sees a weakness in the oversight program that, while not a deficiency, should be addressed by the oversight agency to improve the program's effectiveness. Among the seven completed audits, there were 38 deficiencies and 53 areas of concern.

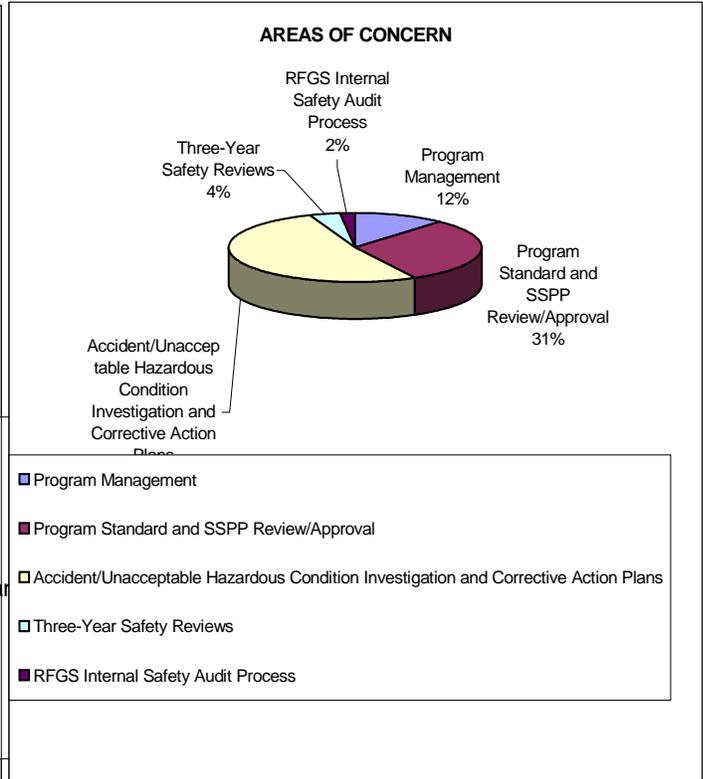
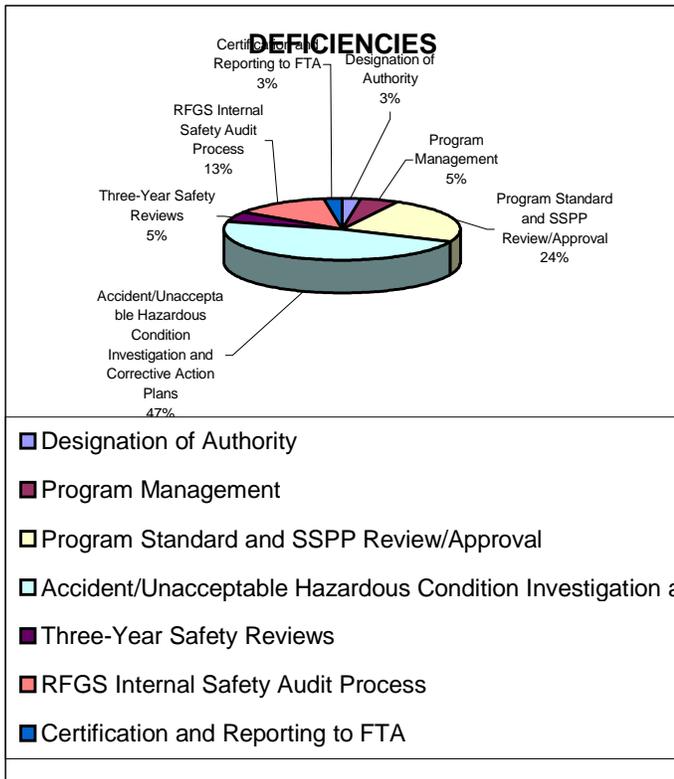
The pie charts demonstrate the number of findings by audit category, as a percentage of the total number of findings. Accident/Unacceptable Hazardous Condition Investigation and Corrective Action Plans accounts for approximately half of all audit findings. Key findings include the failure of oversight agencies to implement and follow procedures for:



**States Audited to Date**



# Audit Findings Analysis



(Continued from page 6)

- ◆ The notification and reporting of accident and unacceptable hazardous conditions
- ◆ The preparation, review, and approval of final accident reports
- ◆ The preparation, review, approval, and tracking of corrective actions.

Few oversight agencies have developed clear standards to guide the performance of hazard assessment to identify and document unacceptable hazardous conditions (see related article).

Other findings include (1) oversight agencies are not reviewing rail agency System Safety Program Plans in a thorough and timely manner, (2) oversight agencies are not sufficiently requiring and monitoring the conduct of internal safety audit process, as specified in APTA Checklist Number 9, at the affected rail agencies, (3) insufficient resources are supplied to support rail transit oversight, and (4) oversight agencies have failed to standardized key review and approval processes through the use of a checklist or some other means

of tracking activity.

In response to audit findings, FTA issued its first State Safety Oversight Technical Advisory on the accident investigation and submitted an “Annual Audit Report Template” to all oversight agencies to direct the preparation of this report to FTA. An additional Technical Advisory will be produced this winter. “Best practices,” including forms, reports, procedures, and on-site activities, are being collected and assessed, and will be posted to the Volpe Center’s Bulletin Board in early 2000 (see related article).

Audited States have worked closely with FTA to resolve identified deficiencies and areas of concern. This partnership has resulted in the timely resolution of all identified deficiencies. Further, as a result of the audits, three States have committed full-time personnel to their State Safety Oversight Programs. Finally, audited States have initiated new programs to identify, track, and verify resolution of approved corrective actions.



## Hazard Analysis Sidebar

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- ◆ To determine what actions to take to eliminate/control identified hazards, a system of determining the level of risk involved must be developed. A good risk assessment model will enable decision makers to properly understand the amount of risk involved relative to what it will cost in schedule and dollars to reduce that risk to an acceptable level.
- ◆ To eliminate or otherwise control as many hazards as possible, prioritize hazards for corrective action. A categorization of hazards may be conducted according to risk level criteria. Categorization may be based on severity since not all hazards are of equal magnitude or criticality to personnel safety and mission success. In some cases, the anticipated consequences of hazardous events may be minimal, while in others, catastrophic. Hazard categorization may also involve the determination of the likelihood of the hazardous event actually occurring. This may be reported in non-numeric

(qualitative) terms, such as frequent, occasional, or improbable; or in numeric (quantitative) terms such as once in ten thousand trips, or  $1 \times 10^{-4}$ /trip.

Prioritization may be accomplished either subjectively by qualitative analyses resulting in a comparative hazard risk assessment or through quantification of the probability of occurrence resulting in a numeric priority factor for that hazardous condition. The Figure below shows the APTA Matrix for hazard risk assessment that can be applied to provide qualitative priority factors for assigning corrective action. In this matrix, an identified hazard assigned a hazard risk index of 1A, 1B, 1C, 2A, 2B, or 3A might require immediate corrective action. A hazard risk index of 1D, 2C, 2D, 3B, or 3C would be tracked for possible corrective action. A hazard risk index of 1E, 2E, 3D, or 3E might have a lower priority for corrective action and may not warrant any tracking actions.

### Hazard Resolution Matrix

Frequency of Occurrence	Hazard Categories			
	I Catastrophic	II Critical	III Marginal	IV Negligible
<b>(A) Frequent</b>	1A	2A	3A	4A
<b>(B) Probable</b>	1B	2B	3B	4B
<b>(C) Occasional</b>	1C	2C	3C	4C
<b>(D) Remote</b>	1D	2D	3D	4D
<b>(E) Improbable</b>	1E	2E	3E	4E

#### Hazard Risk Index

1A, 1B, 1C, 2A, 2B, 3A  
1D, 2C, 2D, 3B, 3C  
1E, 2E, 3D, 3E, 4A, 4B  
4C, 4D, 4E

#### HRI #

 1 UNACCEPTABLE  
 2 UNACCEPTABLE (MGMT. DECISION REQ'D)  
 3 ACCEPTABLE WITH REVIEW BY MGMT.  
 4 ACCEPTABLE WITHOUT REVIEW



### Help with Hazards

*(Continued from page 2)*

the SSPP—from which the transit agency is required to implement criteria for UHC determinations that will, in fact, represent the unique methodologies and capabilities of the transit agency.

FTA also recommends that transit agencies perform Hazard Analysis to support the following activities:

- Accident Investigation
- New Procurements
- System Modification
- Findings from Safety Data Trend Analysis
- Changes in Operating Procedures or “Rule Book”
- Changes to "Critical Safety Items List"
- Special Studies or Investigations
- At the Request of the Oversight Agency

Hazard analysis is a valuable tool that can support these safety functions. It should be used, whenever possible, by qualified RFGS safety personnel.

Some rail transit agencies have implemented the hazard analysis process through the use of Hazard Resolution Committees that meet monthly and prepare monthly or quarterly logs documenting identified hazards, corrective actions, implementation time-frames, and the verification of the implemented corrective actions. These logs are a useful way to manage the hazard analysis process, and, when submitted to the Oversight Agency, support their involvement in the process.

### *Welcome Utah!*



**FTA's Jerry Fisher on-site in Utah.**

*Bob Adduci*

Utah's first light rail line, TRAX (Transit Express) is scheduled to officially begin operation on December 4th, 1999. Construction on the 15-mile North/South line is essentially complete with only finishing touches to be made on several stations and Park and Ride lots. TRAX will provide service to 16 stations, including many Park and Ride lots, from the Delta Center (North end) to the Sandy Civic Center (South end).

Utah's Department of Transportation is working diligently to address all safety requirements prior to passenger service. A safety consultant is under contract to support Utah in the development and implementation of their State Safety Oversight Program as specified in FTA's rule.



Transit police, security, and operations personnel, in cooperation with local law enforcement agencies, implement a variety of security programs to protect transportation agencies, their customers, and employees. Collectively, these programs have demonstrated considerable effectiveness in reducing violent crime and improving customer perceptions of security. These programs, designed to manage traditional security concerns, must now address the threat of transit terrorism.

Since the word *terrorism* was first used to describe the *Jacobin* excesses of the French Revolution, it has been the explanation for a wide range of acts and motivations around the world. Specific definitions of terrorism vary, but a common element among them is the assessment that terrorism is a form of intimidation designed to influence an audience beyond the immediate victims. The goal of terrorism is not just the impact of a given act of violence on the intended target, but also the psychological impact that violence creates on citizens and politicians.

To ensure that acts of terrorism are appropriately identified and investigated, the Federal Bureau of Investigation (FBI) has been given jurisdiction over terrorism in the United States. The FBI defines terrorism as:

“The unlawful use of force or violence, committed by a group(s) of two or more individuals, against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.”

That is, to be considered an act of terrorism, the FBI definition requires three components:

- *Motivation:* A clear political or social agenda

- *Perpetrators:* A conspiratorial dimension
- *Means:* The use of force or violence

Due to the limited scope of this definition, FBI statistics point to low levels of terrorist activity in the United States (less than 50 incidents between 1990 and 1997 meeting the FBI definition were reported). The FBI definition generally excludes many violent acts that others who cope with the consequences of terrorist activity believe should be included. For example, the Bureau of Alcohol, Tobacco and Firearms (BATF) reports that more than 2,500 criminal bombings have occurred in the United States each year since 1990. BATF statistics include those events, such as the Fulton Street Firebombing on the New York City Subway, that are not considered “terrorist” acts by the FBI definition.

Due to the dramatic increase in criminal bombings, and the related violence associated with explosives and firearms, many transit organizations consider a wider range of activities, more applicable to the transit environment, to guide planning and response activities. This range generally includes both acts of terrorism (according to the FBI definition) and *quasi-terrorism*. Quasi-terrorist acts are those not meeting the FBI standards for classification as terrorism, but having the following characteristics:

- *Motivation:* A clear *criminal, ideological, political, social, or religious* agenda
- *Perpetrators:* Committed by *one* or more persons
- *Means:* The use of force or violence *or the threat of force or violence*

## The Changing Threat

In public transportation, the changing terrorist threat is best observed through the following four trends:



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- First, individual acts of terrorism and extreme violence are producing increasing casualties. As reported by the U.S. State Department, bombings of transportation targets in India, France, Israel, and Colombia are killing growing numbers of people. Individual incidents, while occurring in lesser number, are more violent than ever before.
- Second, assessments prepared by the U.S. intelligence community indicate both the growing attractiveness of transit as a target and the growing number of incidents committed against rail and bus systems worldwide. According to the U.S. State Department, between 1991 and 1998, the number of violent attacks against transportation targets has increased from 20 percent of all violent attacks in 1991 to nearly forty percent in 1998.
- Third, a growing number of terrorist groups appear no longer to be constrained by traditional state sponsors or sub-national groups. New motivations, which no longer include an over-riding concern for public support, are eroding restraint, and increasing the violence associated with terrorist attacks.
- Finally, with the release of Sarin gas in Tokyo on March 20<sup>th</sup>, 1995, the chemical, biological and nuclear threshold has now been crossed. Weapons of Mass Destruction now appear to be within the grasp of those more willing to use them.

While U.S. transit systems have thus far not been the focus of political terrorism, they have been the targets of quasi-terrorist acts such as the 1940 to 1956 “Mad Bomber” campaign that targeted transit and other infrastructure targets in New York City and the 1994 Fulton Street Firebombing on the

NYC Subway. On July 30, 1997, 300,000 commuters were stalled as police rerouted trains underneath the Brooklyn apartment of a trio of suicide bombers. The bombers were planning to attack the Atlantic Avenue terminus of the Long Island Rail Road, and New York City subway and bus targets. The February 26, 1993 World Trade Center Bombing, though not a transit-directed attack, impacted operations on both the NYC Subway and the bi-state PATH commuter railway, yielding significant damage to PATH’s lower Manhattan terminus at the World Trade Center. The October 9, 1995 sabotage-induced derailment of Amtrak’s *Sunset Limited* killed one and injured 65 people. The most violent quasi-terrorist event occurred on December 7, 1993, when Colin Ferguson, a lone gunman, killed 6 and injured 17 in an armed assault on a rush hour Long Island Rail Road train.



### **VOLPE**

FTA uses a variety of tools to "get the word out" to all stakeholders in the transit industry. Recently, the FTA Office of Safety and Security has joined the cyber-community and gone on-line. Please visit us at <http://transit-safety.volpe.dot.gov>.

The site covers many aspects of mass transit safety and security: drug and alcohol testing programs and statistics, safety and security incident statistics, and many other safety and security programs, including the State Safety Oversight (SSO) program. The on-line information includes the full text of the SSO Regulation, 49 CFR Part 659, the Proposed Joint FRA/FTA Shared Use Statement, and the Annual Reporting Template, with more information to come. *Come check us out!*

### **Ask FTA...**

With the expansion of electronic mail, FTA believes that this would be an excellent medium for readers to submit questions regarding FTA's State Safety Oversight Program, the implementation of 49 CFR Part 659, or the State Safety Oversight Audit Program. Of course, submission is not limited to e-mail, questions by fax are also welcome. FTA hopes that a question and answer column will provide yet another means by which FTA can support its technical assistance activities for those that are affected (or soon to be) by the rule. Please submit your questions to:

Jim Caton  
E-mail: [jcaton@boydmaier.com](mailto:jcaton@boydmaier.com)  
Fax: (804) 985-8977

### **Important Safety and Security Links**

**US Department of Transportation**  
[www.dot.gov](http://www.dot.gov)

**Federal Bureau of Investigation**  
[www.fbi.gov](http://www.fbi.gov)

**Federal Transit Administration**  
[www.fta.dot.gov](http://www.fta.dot.gov)



**Transit Policing**  
[home1.gte.net/tpnews](http://home1.gte.net/tpnews)

**American Public Transit Association**  
[www.apta.com](http://www.apta.com)

**System Safety Society**  
[www.system-safety.org](http://www.system-safety.org)

**Volpe Center**  
[www.volpe.dot.gov](http://www.volpe.dot.gov)

**Federal Railroad Administration**  
[www.fra.dot.gov/site/index.htm](http://www.fra.dot.gov/site/index.htm)

**Federal Highway Administration's State DOTs**  
[www.fhwa.dot.gov/webstate.htm](http://www.fhwa.dot.gov/webstate.htm)

**Federal Emergency Management Agency**  
[www.fema.gov](http://www.fema.gov)



### **3rd Annual State Safety Oversight Workshop**

FTA's Office of Safety and Security is sponsoring the Third Annual Workshop for State Safety Oversight Agencies. This Workshop, which will be hosted by the Oregon Department of Transportation, will take place from December 8 to December 10, 1999 in Portland, Oregon at the DoubleTree Hotel at the Lloyd Center.

There is no registration fee for the Workshop. Participant's costs are limited to travel and lodging expenses. Since many attendees will be travelling from out-of-state, FTA is also sponsoring an Opening Reception on Tuesday evening. The Reception will begin at 6:00pm and will also be held at the DoubleTree Hotel.

Similar to last year's Workshop, oversight agency representatives will be making many of the presentations. A tentative list of the topics to be covered this year includes the following:

- ◆ Safety Oversight: The Year in Review
- ◆ Safety Data Collection and Analysis
- ◆ New States and Start-ups
- ◆ Developing an Internal Safety Audit Process with the Transit Agency
- ◆ Safety Certification of Vehicles, Structures, and New Starts
- ◆ Evaluating Transit Security Programs
- ◆ Resolving Conflicts of Interest
- ◆ Enforcing Oversight Requirements

Portland Tri-Met has agreed to provide all interested Workshop attendees with a tour of Washington Park Station. At 260 feet underground, it is the deepest transit station in North America, and the second deepest in the world, accessible to passengers only by four high-speed elevators. Tri-Met will also provide a tour of its Control Center and MAX rail shop. Tour arrangements will be finalized during the first day of the Workshop.

If you have any questions concerning the Workshop, please call Mr. Roy Field of FTA's Office of Safety and Security at (202) 366-0197.



## FTA Regional Offices

### Region 1

(CT, ME, MA, NH, RI, VT)

Mr. Richard Doyle  
Regional Administrator  
55 Broadway, Suite 920  
Cambridge, MA 02142-1001  
Tel: (617) 494-2055  
Fax: (617) 494-2865  
richard.doyle@fta.dot.gov

### Region 3

(DE, DC, MD, PA, VA, WV)

Mr. Sheldon Kinbar  
Regional Administrator  
1760 Market Street  
Suite 500  
Philadelphia, PA 19103  
Tel: (215) 656-7100  
Fax: (215) 656-726  
Sheldon.kinbar@fta.dot.gov

### Region 5

(IL, IN, MI, MN, OH, WI)

Mr. Joel Ettinger  
Regional Administrator  
200 West Adams Street  
14th Floor  
Chicago, IL 60603  
Tel: (312) 353-2789  
Fax: (312) 886-0351  
Joel.ettinger@fta.dot.gov

### Region 7

(IA, KC, MO, NE)

Mr. Mokthee Ahmad  
6301 Rock Hill Road  
Suite 303  
Kansas City, MO 64131  
Tel: (816) 426-2821  
Fax: (816) 426-3535

### Region 2

(NJ, NY, Puerto Rico, Virgin Islands)

Ms. Letitia Thompson  
Regional Administrator  
26 Federal Plaza, Suite 2940  
New York, NY 10278  
Tel: (212) 264-8162  
Fax: (212) 264-8973  
letitia.thompson@fta.dot.gov

### Region 4

(AL, FL, GA, KY, MS, NC, SC, TN)

Ms. Susan E. Schruth  
Regional Administrator  
61 Forsyth Street, S.W.  
Room 5B95  
Atlanta, GA 30323  
Tel: (404) 562-3500  
Fax: (404) 562-3505  
Susan.schruth@fta.dot.gov

### Region 6

(AR, LA, NM, OK, TX)

Mr. Lee Waddleton  
Regional Administrator  
524 East Lamar Boulevard  
Suite 175  
Arlington, TX 76011  
Tel: (817) 978-0550  
Fax: (817) 978-0575  
Lee.waddleton@fta.dot.gov

### Region 8

(CO, MT, ND, SD, UT, WY)

Mr. Louis Mraz, Jr.  
Regional Administrator  
216 16th Street, Suite 60  
Denver, CO 80202  
Tel: (303) 844-3242  
Fax: (303) 844-4217  
Lou.mraz@fta.dot.gov

### Region 9

(AZ, CA, HI, NV, Guam, American

Mr. Leslie Rogers  
Regional Administrator  
75 Hawthorn Street  
Fourth Floor  
San Francisco, CA 94105  
Tel: (415) 744-3133  
Fax: (415) 744-2726  
Leslie.rogers@fta.dot.gov

### Region 10

(AK, ID, OR, WA)

Ms. Helen Knoll  
Regional Administrator  
Jackson Federal Building  
915 Second Avenue, Room 3142  
Seattle, WA 98174  
Tel: (206) 220-7954  
Fax: (206) 220-7959  
Helen.knoll@fta.dot.gov

## Hazard Handbook

The System Safety Society is now accepting orders for the 2<sup>nd</sup> edition of the *System Safety Analysis Handbook*. The Handbook, referenced in the Draft MIL-STD-882D, contains a compilation of more than 100 hazard analysis techniques and methodologies, plus other related information for the seasoned safety professional as well as the new practitioner. The Handbook is available in hard copy and CD ROM (with added search capabilities and hypertext links). Orders can be placed at [www.system-safety.org](http://www.system-safety.org).



# Sample UHC Notification Form

**NAME OF STATE SAFETY OVERSIGHT AGENCY**

TELEPHONE: \_\_\_\_\_

FAX NUMBER: \_\_\_\_\_

**HAZARD PROBABILITY:** \_\_\_\_\_

**HAZARD SEVERITY:** \_\_\_\_\_

**REPORTING AGENCY**

Rail Transit Agency: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Reported By: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Time Reported: \_\_\_\_\_

**DESCRIPTION OF UNACCEPTABLE HAZARDOUS CONDITION**

Location: \_\_\_\_\_

How Identified: \_\_\_\_\_

By Whom: \_\_\_\_\_

Brief Narrative Description: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Preliminary Probable Cause (if available) \_\_\_\_\_

\_\_\_\_\_

**CORRECTIVE ACTION PLAN AND SCHEDULE**

Date	Activity

Submitted By: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_



# FTA Calendar

## Produced By

Office of Safety & Security  
Federal Transit Administration  
TPM-30  
400 7th Street, SW  
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(202) 366-2896

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(617) 494-3450

## Edited By

Boyd, Maier & Associates  
Greenwood Farms Road  
Barboursville, VA 22923  
(804) 985-1033  
Fax: (804) 985-8977

## Schedule of Events

- Will be provided by Edith Rodano
- **Date** — Briefly describe the event here, including time and place.
- **Date** — Briefly describe the event here, including time and place.
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State Safety  
Oversight

Boyd, Maier & Associates  
402 Greenwood Farms Road  
Barboursville, VA 22923