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NCHRP
REPORT 525
VOLUME 9

Guidelines for Transportation Emergency Training Exercises

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TRANSPORTATION SECURITY

Volume 9:
Guidelines for Transportation Emergency Training Exercises

McCormick Taylor, Inc.
Philadelphia, PA

Subject Areas
Planning and Administration • Operations and Safety • Aviation
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The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions,* published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, The National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Academies was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state and local governmental agencies, universities, and industry; its relationship to the National Research Council is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research needs to be included in the program are proposed to the National Research Council and the Board by the American Association of State Highway and Transportation Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the National Research Council and the Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

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FOREWORD

By S. A. Parker
Staff Officer
Transportation Research Board

This ninth volume of both *NCHRP Report 525: Surface Transportation Security* and *TCRP Report 86: Public Transportation Security* is designed to assist transportation agencies in developing drills and exercises in alignment with the National Incident Management System (NIMS). In his September 8, 2004, letter to state governors, Department of Homeland Security Secretary Tom Ridge wrote that "NIMS provides a consistent nationwide approach for Federal, State, territorial, tribal, and local governments to work effectively and efficiently together to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity."

Emergency preparedness is necessary to maximize the safety and security of passengers, employees, and emergency responders, as well as the general public, when an emergency event occurs that involves vehicles or infrastructure (including power supplies and communications links) of transportation systems in the United States. Preparedness requires a significant amount of planning and the involvement of all members of the emergency community, including law enforcement, fire services, emergency management agencies, and emergency medical services. The result should be a detailed plan for responding to a variety of anticipated events and, to a reasonable degree, unanticipated events.

The objective of *Volume 9: Guidelines for Transportation Emergency Training Exercises* is to provide guidelines for use by transportation exercise coordinators. Steps are described in the process of emergency exercise development, implementation, and evaluation. In addition, the available literature and materials to support transportation agencies—including state departments of transportation (DOTs), traffic management centers (TMCs), and public transportation systems—are described. Useful materials are presented as references, with Internet addresses, where applicable. The guidelines in this report are supplemented online at www.TRB.org/SecurityPubs and http://trb.org/news/blurb_detail.asp?id=6007 with more than 80 resource files.

These guidelines comprise the required elements of a successful transportation emergency exercise program. However, transportation professionals seeking greater levels of preparedness must recognize the critical part that public safety organizations will play in any community emergency and must closely coordinate with these organizations. These guidelines were developed jointly under TCRP and NCHRP. They are appropriate for exercise coordinators at state and local transportation agencies responsible for all modes of transportation.

McCormick Taylor, Inc., prepared this volume of *NCHRP Report 525/TCRP Report 86* under NCHRP Project 20-59(18)/TCRP Project J-10C.

Emergencies arising from terrorist threats highlight the need for transportation managers to minimize the vulnerability of travelers, employees, and physical assets through incident prevention, preparedness, mitigation, response, and recovery. Man-

agers seek to reduce the chances that transportation vehicles and facilities will be targets or instruments of terrorist attacks and to be prepared to respond to and recover from such possibilities. By being prepared to respond to terrorism, each transportation agency is simultaneously prepared to respond to natural disasters such as hurricanes, floods, and wildfires, as well as human-caused events such as hazardous materials spills and other incidents.

This is the ninth volume of *NCHRP Report 525: Surface Transportation Security* and the ninth volume of *TCRP Report 86: Public Transportation Security*, two series in which relevant information is assembled into single, concise volumes—each pertaining to a specific security problem and closely related issues. These volumes focus on the concerns that transportation agencies are addressing when developing programs in response to the terrorist attacks of September 11, 2001, and the anthrax attacks that followed. Future volumes of the reports will be issued as they are completed.

To develop this volume in a comprehensive manner and to ensure inclusion of significant knowledge, available information was assembled from numerous sources, including a number of state departments of transportation. A topic panel of experts in the subject area was established to guide the researchers in organizing and evaluating the collected data and to review the final document.

This volume was prepared to meet an urgent need for information in this area. It records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. Work in this area is proceeding swiftly, and readers are encouraged to be on the lookout for the most up-to-date information.

Volumes issued under *NCHRP Report 525: Surface Transportation Security* and *TCRP Report 86: Public Transportation Security* may be found on the TRB website at http://www.TRB.org/SecurityPubs.

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Executive Summary

New threats to public safety are challenging transportation officials on a daily basis. These professionals must actively work to prevent and respond to these new threats. This need has led to new efforts in planning and training; developing procedures; evaluating facility designs with security criteria; using the power of technology; and enhancing cooperation and coordination with state, regional, and local agencies to mitigate the effects of human-made and natural disasters. In the assessment of the state of preparedness in the transportation environment, the practice of conducting and evaluating emergency exercises offers a potential tool second only to the experience of responding to an actual emergency.

The guidelines that follow in this document have been designed as a reference for transportation exercise coordinators. Steps are described in the processes of emergency exercise development, implementation, and evaluation. In addition, the available literature and materials to support transportation agencies—including state departments of transportation (DOTs), traffic management centers, and public transportation systems—are described. Useful materials are presented as references with Internet links where applicable.

The guidelines in this report are the result of an extensive literature review, as well as telephone interviews with personnel in the transportation environment who are actively developing and evaluating exercises. The guidelines analyze recent recommendations and guidance from the Federal Emergency Management Agency (FEMA) and the Preparedness Directorate Office of Grants and Training (G&T, formerly the Office for Domestic Preparedness). Both FEMA and the G&T are part of the Department of Homeland Security (DHS).

In addition, contractor-developed materials documenting findings and assessments from exercises have been reviewed for the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA).

The guidelines consist of the required elements of a successful transportation emergency exercise program. However, transportation professionals seeking greater levels of preparedness must recognize the critical part that public safety organizations will play in any community emergency and must closely coordinate with these organizations. Many of these public safety organizations are now working to improve their capabilities by addressing new requirements spelled out in the National Response Plan (NRP) and the National Incident Management System (NIMS), which were recently released by the DHS.

The new federal requirements have been developed from existing practices to create an integrated emergency response capability that can expand or contract, depending on the nature of the emergency, and that uses procedures and technology to aid the information exchange between agencies at all levels of government. Transportation agencies should proactively integrate with this system, as they may have an important role to play in response actions needed immediately before, during, and after natural or human-made emergencies. A program of effective training exercises will strengthen relationships between public safety, emergency management, and transportation professionals, thereby aiding communities through joint activities, partnerships, and shared exercise improvement plans.

1.0 Introduction

Transportation professionals at all levels of their agencies and in all types of communities are now working to prevent and respond to new threats to public safety. These professionals are engaged in planning and training; development of procedures; evaluation of security design criteria and technology; and enhanced coordination with local, regional, and state agencies to mitigate the effects of natural and human-made disasters. In assessing the effectiveness of this activity, the best way to determine transportation preparedness is by conducting and evaluating emergency exercises.

The guidelines in this report have been designed as a reference for transportation exercise coordinators. They describe steps in emergency exercise development, implementation, and evaluation and highlight available literature and materials to support transportation agencies, including state departments of transportation (DOTs), transportation management centers, and public transportation systems. References to useful materials are presented in standard bibliographic format, with corresponding uniform resource locators (URLs) to direct transportation exercise coordinators to web resources.

Information provided in the guidelines is based on an extensive literature review, telephone interviews with personnel responsible for developing and evaluating exercises in the transportation environment, and analysis of recent recommendations and guidance provided by the Federal Emergency Management Agency (FEMA) and the Preparedness Directorate Office of Grants and Training (G&T, formerly the Office for Domestic Preparedness). Both FEMA and the G&T are part of the Department of Homeland Security (DHS).

Materials that were developed by contractor teams documenting findings and assessments from exercises for the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) were also consulted.

Although the guidelines contain the elements of an effective transportation emergency exercise program, it is important to recognize that transportation agencies alone cannot achieve their preparedness objectives. Emergency management and public safety agencies are the lead stakeholders in ensuring a community's readiness. Transportation professionals must coordinate closely with their peers at these agencies. Many of these peers are now working to improve their capabilities by addressing new requirements specified in the National Response Plan (NRP) and the National Incident Management System (NIMS), which were both recently released by the DHS.

The guidelines in this report build on existing practices to create an integrated emergency response capability that can expand or contract based on the nature of the emergency and that uses technology and procedures to support the exchange of information among agencies across all levels of government. Transportation agencies should be integrated into this emerging system because they may play a major role in primary response actions that might be needed in times of natural or human-made disasters. An effective program of training exercises strengthens the ties between the transportation, emergency management, and public safety communities through partnership, joint activities, and shared exercise improvement plans.

Guidelines Organization

The guidelines provide an overview of the process currently recommended for managing an emergency exercise program in the transportation environment. These guidelines are written in plain language in order to be accessible to those who may have little or no experience in exercises. Wherever possible, the guidelines include references to other resources that will be valuable in creating an effective program.

The guidelines are organized into five sections.

Section 1 provides an introduction to the "Guidelines for Transportation Emergency Training Drills and Exercises" project; offers a brief overview of why transportation agencies conduct exercises; and

highlights existing federal regulations, recommendations, and programs to support transportation exercises.

Section 2 introduces the concept of a progressive exercise program and highlights new and emerging programs sponsored by FEMA and the G&T. This section also provides an overview of the seven different types of exercises that make up a progressive exercise program.

Section 3 illustrates how a progressive exercise program can be established in the transportation environment and provides information on program costs and grant funding opportunities.

Section 4 describes how an agency can plan, design, conduct, and evaluate discussion-based exercises that will help improve the agency's ability to respond to transportation emergencies. This section includes references to forms and templates that can be used by a transportation agency to address specific needs.

Section 5 outlines and describes how an agency can plan, design, conduct, and evaluate operations-based exercises that will help improve the agency's ability to respond to transportation emergencies. This section includes references to forms and templates that can be used by a transportation agency to address specific needs.

Appendixes to the guidelines include an abbreviation list (Appendix A), a glossary of terms (Appendix B), a detailed bibliography with URLs to locate materials on the Internet (Appendix C), and a list of training and exercise websites for additional information (Appendix D).

Attachments to the guidelines include

- Information on the NRP and NIMS and how they affect transportation agencies (Attachment 1);
- A transportation exercise evaluation guide in compliance with DHS recommendations (Attachment 2);
- A template for performing a needs assessment to direct exercise programs (Attachment 3);
- A set of exercise design objectives (Attachment 4);
- A set of materials to support exercise development, implementation, and evaluation (Attachment 5); and
- A set of materials that support the development of transportation incident response typologies for use in developing emergency exercises (Attachment 6).

Why Conduct Exercises?

Transportation agencies are vulnerable to a range of events that may result in emergencies. Table 1 illustrates some of the most likely of these events, organized into categories of human-caused events (both intentional and unintentional) and naturally occurring events.

An exercise is a focused practice activity that places the participants in a simulated situation that requires them to function in the capacity that would be expected of them in a real event. A good, well-evaluated exercise reveals inconsistencies in plans, highlights deficiencies in resources, and underscores any need for additional training.

Going directly into a real emergency operation without practicing in exercises involves substantial risks. For example, many participants may not know or thoroughly understand what their emergency responsibilities are or how these responsibilities relate to activities performed for other elements of the response. Equipment may not function as expected, and procedures may not be as effective as

TABLE 1 EMERGENCY EVENTS AFFECTING TRANSPORTATION AGENCIES

Naturally Occurring	Human-Caused	
	Intentional	Unintentional
► Droughts ► Dust/Wind Storms ► Earthquakes ► Electrical Storms ► Floods ► High Winds ► Hurricanes ► Ice Storms ► Landslides ► Naturally Occurring Epidemics ► Snowstorms and Blizzards ► Tornadoes ► Tropical Storms ► Tsunamis ► Typhoons ► Wildfires	► Bomb Threats and Other Threats of Violence ► Disruption of Supply Sources ► Fire/Arson ► Fraud/Embezzlement ► Labor Disputes/Strikes ► Misuse of Resources ► Riot/Civil Disorder ► Sabotage: External and Internal Actors ► Security Breaches ► Terrorist Assaults Using Chemical, Biological, Radiological, or Nuclear Agents ► Terrorist Assaults Using Explosives, Firearms, or Conventional Weapons ► Theft ► Vandalism ► War ► Workplace Violence	► Accidental Contamination or Hazardous Materials Spills ► Accidental Damage to or Destruction of Physical Plant and Assets ► Accidents That Affect the Transportation System ► Gas Outages ► Human Errors ► HVAC System Failures or Malfunctions ► Inappropriate Training on Emergency Procedures ► Power Outages ► Software/Hardware Failures or Malfunctions ► Unavailability of Key Personnel ► Uninterruptible Power Supply (UPS) Failure or Malfunction ► Voice and Data Telecommunications Failures or Malfunctions ► Water Outages

anticipated. Such risks, when thoughtfully considered, are unacceptable to most transportation agencies. Accordingly, a broad spectrum of exercise activity is necessary if functional emergency response and recovery capability is to be realistically assessed and improved.

Well-designed and -executed exercises are the most effective means of:

- Testing and validating policies, plans, procedures, training, equipment, and interagency agreements;
- Clarifying and training personnel in roles and responsibilities;
- Demonstrating mastery of standard and emergency operating procedures, communications, equipment, and public information dissemination;
- Improving internal agency and interagency coordination and communications;
- Identifying gaps in resources;
- Improving individual performance; and
- Identifying specific actions that should be taken to improve the response capability.

Exercises are also an excellent way to demonstrate community resolve and cooperation to prepare for disastrous events. Review of successful responses to emergencies over the years has shown that pre-emergency exercising pays huge dividends when an actual emergency occurs. This is especially true in instances where communities were involved in full-scale exercises that tested the range of response activities, communications protocols, and resources to be applied.

As providers of a public service, transportation agencies have a responsibility to

- Ensure customer and employee safety and security at all times,
- Train employees so that they know what to do when an emergency occurs,

- Recognize that they are part of the regional emergency response effort, and
- Correct gaps and vulnerabilities in the system.

Exercises help the transportation agency to fulfill these responsibilities. In the transportation environment, exercises provide an effective way to implement and fine-tune an agency's emergency plan, provide training, and improve system safety and security. Transportation agencies that integrate exercise and evaluation programs into their preparedness activities can more efficiently and effectively execute their emergency response plans during an actual event.

Federal Exercise Requirements for Transportation Agencies

With the exception of rules promulgated by the Federal Railroad Administration (FRA),[1] which regulates Amtrak and commuter railroads; the Environmental Protection Agency (EPA),[2] which governs hazardous materials suppliers and shippers; and the Department of Energy (DOE),[3] which oversees the shipment of radioactive materials, there are no specific regulatory requirements mandating transportation exercise programs for state DOTs, transportation management centers, and public transportation agencies.

Even without direct regulation or requirement, transportation agencies have an interest in obtaining support from federal funding sources, guidance from the lessons learned through the exercise programs already established, and continued means of coordinating with other providers of emergency services that are most closely linked to existing funding sources and exercise requirements (i.e., with emergency management, emergency medical, fire, and law enforcement agencies).

Both the FTA and the FHWA have issued recommendations and provided funding to support the conduct of emergency exercises. In 2002, using supplemental funds from the Department of Defense (DOD), FTA invited the largest 100 transit systems to submit applications for grants up to $50,000 per transit agency to conduct single or multiple emergency exercises. The amount awarded depended on the number and complexity of the exercises. Eighty-two of the largest 100 agencies applied for and were awarded grants.

As a condition of these grants, transit agencies submitted after action reports (AARs) and evaluations and, in some instances, complete exercise packages to the FTA. Through the spring of 2004, the FTA assessed the materials received from transit agencies. Two reports have been issued so far:

- Development of Guidelines for Planning, Conducting, and Evaluating Transit Emergency Operations Exercises: Compendium of Drill Practice, FTA, Office of Safety and Security, Washington, D.C., March 2004.
- Briefing Paper of Learning Objectives and Measures of Effectiveness, FTA, Washington, D.C., March 2004.

[1] *49 CFR—Passenger Train Emergency Preparedness Part 239.* According to Part 239, "each railroad operating passenger train service shall conduct full-scale emergency simulations, in order to determine its capability to execute the emergency preparedness plan under the variety of scenarios that could reasonably be expected to occur on its operation, and ensure coordination with all emergency responders who voluntarily agree to participate in the emergency simulations." The frequency of emergency simulations under 49 CFR 239 varies, but for most affected agencies, it requires at least one simulation per year to include participation with local emergency responders, a critique, and a debrief.

[2] The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, and corresponding regulations issued by the states for local emergency planning committees (LEPCs), fire departments, and state emergency response commissions (SERCs).

[3] The Transportation Emergency Preparedness Program (TEPP) is a departmentwide program that integrates transportation emergency preparedness activities under a single program to address the emergency response concerns of state, tribal, and local officials affected by the DOE's requirements for shipment of radioactive materials.

These reports can be downloaded from http://trb.org/news/blurb_detail.asp?id=6007. Additional reports are pending.

To provide guidance to support the development of emergency planning and exercise programs, in January 2003, the FTA released its "Top 20 Security Program Action Items for Transit Agencies," available at http://transit-safety.volpe.dot.gov/security/SecurityInitiatives/Top20/default.asp. This website provides resources and templates to help transit agencies implement 20 distinct action items prioritized by the FTA as critical to improving both security and emergency preparedness. The development of a transportation exercise program is highly recommended and addressed in two of the Top 20 Security Action Items. Other items, such as emergency response planning and training, also support exercise programs.

In 2002 and 2003, the FHWA conducted 21 workshops around the United States on transportation operations preparedness and response. The overall objectives of the workshops were to

- Increase participant awareness of (1) the critical processes, issues, and activities that may arise during and following an emergency and (2) the possible approaches for addressing them;
- Enhance working relationships among personnel from multiple organizations responsible for emergency preparedness and response in each of the 10 regions;
- For transportation emergency response planning and readiness in each of the 10 regions, identify both (1) areas for improvement and (2) next steps to address these areas; and
- Provide input to transportation emergency preparedness guidance materials being prepared at the national level.

These workshops also provided a model for conducting emergency exercises that could be used by state DOTs and transportation management centers around the nation. Also, the FHWA has established a website with information to support the development and evaluation of emergency exercises. This website is located at http://www.ops.fhwa.dot.gov/OpsSecurity/.

In cooperative programs with the American Association of State Highway and Transportation Officials (AASHTO), with the Transportation Research Board (TRB), with the FTA, and with the American Public Transportation Association (APTA), the FHWA has sponsored training workshops on emergency planning and threat and vulnerability assessment. Both of these critical elements must be in place to support an effective exercise program. Additional information on these programs is available at http://www.trb.org/securitypubs.

As will be discussed in the next section of this report, FEMA and the G&T have helped each other develop guidelines for conducting and evaluating emergency exercises. FEMA's program of guidelines addresses exercises conducted for natural disasters and technological accidents; the G&T's program of guidelines focuses on terrorism-related events. Although following the guidelines in these programs is not mandatory, transportation agencies and their partners in municipal, county, and state governments can obtain grant funding by doing so. FEMA and G&T guideline programs, both revamped in the last few years, offer the most consistent guidance yet on exercise planning, performance, and evaluation.

2.0 Progressive Exercise Programs

Since the mid-1980s, federal, state, and local agencies involved in the design, conduct, and evaluation of emergency exercises have emphasized the importance of a progressive exercise program. This approach encourages each transportation agency to organize and prepare for a series of increasingly complex exercises, using a process whereby each successive exercise builds upon the previous one to meet specific operational goals. This program is coordinated using a set of project management tools that promote defined goals, measurable objectives, formal schedules, and dedicated resources.

As indicated in Figure 1, a progressive program implements a cycle of planning development, training, exercises, and improvement actions. This cycle is used to direct and schedule exercise activity and then to ensure that identified improvements are addressed.

Progressive exercise programs emphasize the inter-relationships between planning, training, exercises, and the identification and implementation of improvement actions.

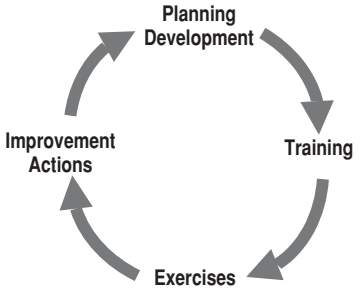

Figure 1 Progressive Exercise Program Cycle

A progressive exercise program begins with the establishment of a 3-year exercise cycle. Within this cycle, targeted areas of focus are identified based on formal needs assessments, threat and vulnerability assessments, and the recommendations of senior personnel. For example, target areas may include the use of communications equipment and systems across multiple jurisdictions, the integration of transportation resources into the incident/unified command system established by local responders, and the performance of specific types of activities in the transportation environment (e.g., de-energizing and re-energizing third-rail or overhead catenary systems, station and vehicle evacuations, procedures for vehicle hijackings, and procedures for managing suspicious packages in transportation facilities and on vehicles).

Next, emergency response plans, policies, procedures, immediate actions, and job aids are developed, or existing documents are reviewed, in these focus areas. Training is then provided, or the quality of existing training is assessed. Then, over the course of the 3-year cycle, increasingly complex types of exercises are conducted to assess and reinforce critical activities within the target areas of focus. Each exercise is evaluated, and results are incorporated into the planning development process.

Most transportation agencies, like their partners in law enforcement and other public safety disciplines, have already developed plans and procedures and provided initial training. Some transportation agencies have previous experience with emergency exercises. Whenever a transportation agency finds itself in this process, it can initiate the progressive exercise program cycle.

FEMA and G&T Programs

In the early 1990s, FEMA developed a core curriculum devoted to supporting the capabilities of local and state agencies to integrate different types of emergency exercises into effective progressive programs. FEMA also initiated a series of grant programs designed to support exercises conducted at the local, regional, and state level. Over the last 15 years, many transportation agencies have developed

Previously developed FTA and FHWA guidelines built on FEMA's Comprehensive Exercise Program.

exercise programs using these materials and resources. Both the FTA and the FHWA have developed guidelines based on these materials:

- *Critical Incident Management Guidelines,* Volpe National Transportation Systems Center, Cambridge, Mass., 1998. http://gulliver.trb.org/publications/security/FinalCrisisManagementGuidelines.pdf.
- *Emergency Preparedness Introductory Materials,* FHWA, Washington, D.C., 2002. http://ops.fhwa.dot.gov/opssecurity/index.htm.
- Information on FEMA's Comprehensive Exercise Curriculum is available at http://www.training.fema.gov/EMIWeb/CEC/.

With the creation of the DHS in 2003, the G&T (formerly the Office for Domestic Preparedness) has now taken the lead in the development of grant programs and supporting guidelines to enhance the preparedness of local and state agencies for terrorism-related events. FEMA (also now a part of the DHS) has retained responsibility for emergency exercises assessing response capabilities for natural disasters and other non-terrorism-related events.

To meet its new mission, the G&T has developed the Homeland Security Exercise and Evaluation Program (HSEEP), which builds on the previous FEMA curriculum. This program, which is being coordinated with FEMA, has been promoted by the DHS as the new standard for emergency exercises. It has been designed following the NRP and NIMS. Using these new DHS requirements, HSEEP now emphasizes consistent terminology, common processes, and an implementation approach that is practical and flexible enough for all exercise planners (regardless of their sponsoring agency or organization).

To provide guidance for all organizations conducting emergency exercises, the G&T has prepared a series of four manuals:

- *HSEEP Volume I: Overview and Doctrine* provides requirements and guidance for the establishment and maintenance of a homeland security exercise program.
- *HSEEP Volume II: Exercise Evaluation and Improvement* offers a proven methodology for evaluating homeland security exercises and implementing an improvement program.
- *HSEEP Volume III: Exercise Program Management and Exercise Planning Process* assists planners in establishing an exercise program and outlines a standardized planning process adaptable to any types of exercise.
- *HSEEP Volume IV: Sample Exercise Documents and Formats* provides sample exercise materials referenced in HSEEP Volumes I–III. These materials are available only through the G&T Secure Portal, a web-based system that enables the G&T to establish user names and passwords for all organizations using these materials. To gain access to the G&T Secure Portal, call the G&T Help Desk at 1-800-368-6498. These materials include both samples and templates for all phases of the exercise planning, implementation, and evaluation processes.

Figure 2 shows the covers of the first two volumes.

HSEEP Volumes I–III, and a table of contents regarding the information contained on the G&T Secure Portal as part of Volume IV, can be accessed at http://www.ojp.usdoj.gov/odp/docs/hseep.htm.

These materials emphasize the value of a progressive exercise program, depicted in Figure 1, and offer several important considerations for transportation agencies:

FEMA/G&T programs have important considerations for transportation agencies. These programs provide a standardized process that is being used by transportation's partners in public safety and emergency management.

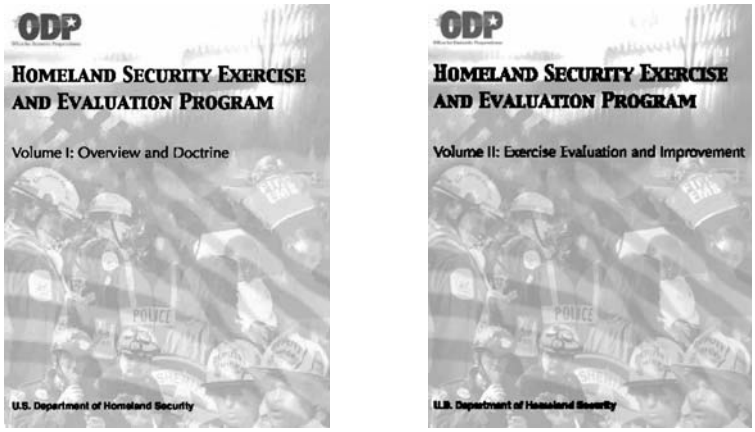

FIGURE 2 G&T HSEEP REPORT COVERS

- A 3-year exercise cycle is established, and a set of program management tools are used by transportation exercise coordinators to organize activities, develop a schedule, assign resources, and ensure that evaluations are adequately performed to identify and incorporate improvements into the transportation agency's response capabilities.

- Templates and reporting forms have been developed that can be accessed by transportation exercise coordinators to support program management; FEMA and G&T grant applications; monitoring of the implementation of identified improvements; and coordination with municipal, county, and state response partners.

- The FEMA and G&T exercise programs offer a graduated approach to readiness, focusing first on ensuring the internal response capabilities of the transportation agency (through the development of plans, policies, and procedures) and the conduct of training. Then the program reaches out to the major organizations that would be involved in managing a transportation emergency. The program reviews mutual aid and interagency agreements and clarifies roles and responsibilities. Finally, once internal and external emergency response plans and activities have been clarified, the program offers a series of increasingly complex exercises to test the effectiveness of plans and personnel.

- In the progressive exercise cycle, a series of planning conferences and meetings are identified to ensure that all partners are ready to participate in the exercises and to enable the building of confidence and clarity in response activities.

- Through the involvement of multiple organizations, the program enables the participating personnel to test, not only their implementation of emergency management procedures but also their coordination with each other in the process.

- The program is carefully planned to achieve identified goals and objectives, which are determined at the beginning of the three-year exercise cycle and refined throughout.

- Transportation agencies that wish to receive funding to support their exercise programs from G&T or FEMA are required to follow this approach. By following this approach, each transportation agency can ensure that the levels of exercise sophistication are tailored to its specific needs, while maintaining the same delivery strategy over the three-year cycle. Specific forms, templates and other information developed by FEMA and the G&T relevant to the emergency exercise development, implementation and evaluation process will be identified in the remainder of this report.

The G&T and FEMA identify seven types of exercises: seminars, workshops, tabletops, games, drills, functional exercises, and full-scale exercises. Each of these exercise types should be conducted at least once over the 3-year exercise cycle.

Types of Exercises

The G&T's HSEEP identifies seven distinct types of exercises arrayed along a continuum designed to promote a comprehensive preparedness capability. This typology is modified from FEMA's earlier curriculum, which combined seminars and workshops into a single category and which did not include games. A visual representation of the HSEEP approach is presented in Figure 3.

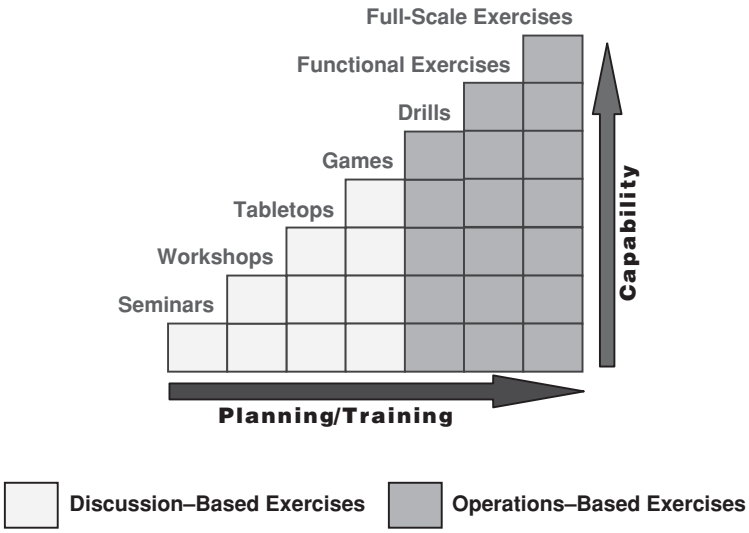

Figure 3 Progressive Exercise Continuum

The relationships among these increasingly complex types of exercises offer a "building block" approach to emergency readiness. This approach ensures successful progression in exercise design, complexity, and execution and allows for the appropriate training and preparation to occur in the community conducting the exercise. Although each exercise type identified in Figure 3 can be executed as a single activity, greater benefit can be achieved through a progressive program that exposes participants to gradually increasing levels of complexity. Implementation of such a program allows the collective community to achieve and maintain competency in executing transportation and local emergency response plans.

Discussion-Based and Operations-Based Exercise Categories

As a critical element of the progressive exercise program, the seven types of exercises identified in Figure 3 are divided into two distinct categories.

Discussion-based exercises include seminars, workshops, tabletops, and games. Operations-based exercises include drills, functional exercises, and full-scale exercises.

- **Discussion-based exercises** are normally the starting point in the building block approach to the progressive exercise cycle. Discussion-based exercises include seminars, workshops, tabletops and games. The types of exercises typically focus on existing plans, policies, mutual aid agreements, and procedures. Thus, they are effective tools for familiarizing agencies and personnel with current or expected response capabilities. They may also provide a forum for developing new plans and procedures. These types of exercises tend to focus on policy-oriented issues. In conducting discussion-based exercises, facilitators and/or presenters usually lead the discussions, helping to keep participants on track and ensure that objectives are met.

- **Operations-based exercises** represent the next stage in the exercise cycle. Operations-based exercises include drills, functional exercises, and full-scale exercises. These exercises are used to validate the plans, policies, agreements, and procedures solidified in discussion-based exercises.

Operations-based exercises can clarify roles and responsibilities, identify gaps in resources needed to implement plans and procedures, and improve individual and team performances. Common characteristics include actual response, mobilization of apparatus and resources, and commitment of personnel, usually over an extended period of time. These exercises may involve single or multiple agencies or jurisdictions.

Table 2 presents these categories of exercises as they are usually applied in the transportation environment. Generally, transportation organizations will start their exercise program with seminars, workshops, and tabletop exercises. Games may be used by executive leadership to test decision-making capabilities under stressful conditions. These types of exercise are inexpensive and can be implemented quickly. They are an effective means of ensuring that plans, policies, procedures, resources, and agreements are in place and that response agencies and personnel are familiar with them.

TABLE 2 ELEMENTS OF A PROGRESSIVE EXERCISE PROGRAM

Type of Exercise	Category of Exercise	High-Level Objectives	Level of Effort	Frequency*
Seminar	Discussion-based	Assessing the adequacy of and familiarity with the participant's plans, policies, procedures, resources, and interagency/ interjurisdictional relationships	Low	Ongoing as part of training
Workshop				2-3 times per year
Tabletop			Medium	1 time per year
Game				As needed
Drill	Operations-based	Expert observation and assessment of three levels of performance: 1. Task-level, 2. Agency/discipline/ function level, and 3. Mission-level	Medium–High	1 time per year
Functional Exercise				1 time per 2 years
Full-Scale Exercise			High	1 time per 3 years

*Depends on size of transportation agency and complexity of emergency response activities, based on guidelines developed by FEMA, the G&T, and transportation practice.

Then, the transportation organization may conduct drills, functional exercises, and full-scale exercises. Depending on complexity, some full-scale exercises can require up to 1 year to develop. Most performance-based exercises conducted in the transportation environment require 3 to 6 months of planning and coordination activity prior to execution. As part of the progressive exercise program, different types of exercises test critical response activities with different frequencies.

BRIEF OVERVIEW OF EXERCISE TYPES

A brief overview of each type of exercise is provided below.

Seminars can be incorporated into a transportation agency's existing training and responder familiarization programs.

SEMINARS

Seminars are generally employed to orient participants to, or to provide an overview of, authorities, strategies, plans, policies, procedures, protocols, response resources, or concepts and ideas within the exercise program. Seminars are a good starting point for transportation agencies that are creating or making major changes to their plans and procedures. Seminars also provide opportunities to gain awareness of, or assess the capabilities of, interagency or interjurisdictional operations. Seminars are the basic building block for exercise development.

Seminars offer the following benefits:

- A low-stress environment employing any number of instruction techniques, such as lectures, multimedia presentations, panel discussions, case study discussions, expert testimony, and decision support tools;
- Informal discussions led by a seminar leader;
- An atmosphere that is not constrained by real-time portrayal of events; and
- Effectiveness with both small and large groups.

Seminars are typically conducted in a lecture-based format with limited feedback or interaction from participants. Examples of seminars typically conducted in the transportation environment include emergency familiarization sessions provided for local responders, meetings to review existing response plans and procedures, sessions to assess interagency agreements and mutual aid, and presentations on lessons learned from agency response to an actual event or emergency.

Typical products associated with seminars include

- Training manuals or workbooks,
- PowerPoint and other visual presentations and briefings, and
- Critique summaries.

Workshops

Workshops can be used to provide training and to support development of revised procedures and plans.

Workshops are a forum for information exchange and usually focus on development of a product, including critical elements of the exercise and evaluation program. Workshops give the transportation agency and its partners in the emergency response and management community the opportunity to

- Collect or share information;
- Obtain new or different perspectives;
- Test new ideas, processes, or procedures;
- Train groups to perform coordinated activities;
- Obtain consensus on exercise program activities; and
- Build teams.

In conjunction with the transportation agency's exercise development process, workshops are most useful in planning specific aspects of exercise design, such as

- Program or exercise objectives,
- Exercise scenario and key events listings, and
- Evaluation elements and standards of performance.

Facilitation and breakout sessions are common. Typical products developed during workshops include draft work materials, presentations, and critique summaries.

Tabletops

Tabletops can involve senior transportation agency staff, relevant elected or appointed officials and board members, other key operations and maintenance staff, and local responders in an informal setting to discuss simulated situations. This type of exercise is intended to stimulate discussion of various issues regarding a hypothetical situation.

Tabletops can be used to assess plans, policies, and procedures or to assess the types of systems needed to guide the prevention of, response to, and recovery from the defined event. Tabletops are typically aimed at facilitating the understanding of concepts, at identifying strengths and shortfalls, and/or at achieving a change in attitude.

Tabletops are the most common type of emergency exercise performed in the transportation environment.

Participants are encouraged to discuss issues in depth and to develop decisions through slow-paced problem solving rather than rapid, spontaneous decision making that occurs under actual or simulated emergency conditions. In contrast to the scale and cost of full-scale exercises, tabletops can be a cost-effective tool when used in conjunction with more complex exercises. The tabletop's effectiveness is derived from the energetic involvement of participants and their assessment of recommended revisions to current policies, procedures, and plans.

There are two categories of tabletops: basic and advanced. In a basic tabletop, the scene set by the scenario materials remains constant. The scene describes an event or emergency incident and brings participants up to the simulated present time. Players apply their knowledge and skills to a list of problems presented by the leader. Problems are discussed as a group, and a resolution is generally agreed upon by the players and summarized by the leader.

In an advanced tabletop, play revolves around delivery of prescripted messages to players that alter the original scenario. The exercise leader usually introduces problems one at a time in the form of a written message, simulated telephone call, videotape, or other means. Participants discuss the issues raised by the problem, using appropriate plans and procedures.

Activities in a tabletop may include:

- Practicing group problem solving,
- Familiarizing senior management,
- Conducting a specific case study,
- Examining personnel contingencies,
- Testing group message interpretation,
- Participating in information sharing,
- Assessing interagency coordination, and
- Achieving limited or specific objectives.

Tabletops are often most effective when they are used to enhance general awareness; validate plans and procedures; and identify strengths and weaknesses in coordination, communication, and interagency information sharing and analysis.

Products generally associated with tabletops include the following:

- Situation manuals,
- PowerPoint presentations and other visual briefings,

- Evaluation plans, and
- AARs or improvement plans.

GAMES

A game is a simulation of operations that often involves two or more teams, usually in a competitive environment, using rules, data, and procedures designed to depict an actual or assumed real-life situation. A game does not involve the use of actual resources, but the sequence of events affects, and is in turn affected by, the decisions made by the players.

Players are commonly presented with scenarios and asked to perform a task associated with the scenario episode. Each episode then moves to the next level of detail or complexity, taking into account the players' earlier decisions. The decisions made by game participants determine the flow of the game. The goal is to explore decision-making processes and the consequences of decisions. In a game, the same situation can be examined from different perspectives by changing variables and parameters that guide player actions. Large-scale games are multijurisdictional and can include active participation from local to national levels of government. Games stress the importance of the planners' and players' understanding of interrelated processes.

With the evolving complexity and sophistication of current simulations, there are increased opportunities to provide enhanced realism for game participants. The use of computer-generated simulations can provide a more realistic and time-sensitive method of introducing situations for analysis. Planner decisions can be input and models run to show the effect of decisions made during a game. Games are excellent vehicles for the following:

- Gaining policy or process consensus,
- Conducting "what-if" analyses of existing plans, and
- Developing new plans.

Shortly after September 11, APTA conducted a series of games with public transportation general managers and executive directors.

DRILLS

A drill is a coordinated, supervised activity usually employed to test a single operation or function in a single agency. Drills are commonly used to provide training in the use of new equipment, to develop or test new policies or procedures, or to practice and maintain current skills. Typical attributes include

- A narrow focus, measured against established standards;
- Instant feedback;
- A realistic environment;
- Performance in isolation; and
- Performance as a subset of full-scale exercises (FSEs).

Drills are commonly performed in the transportation environment, where the existence of clear procedures, operating rulebooks, and structures for employee supervision and evaluation support the incorporation of this type of exercise activity into basic operations training and evaluation.

For each drill, clearly defined plans, policies, and procedures need to be in place. Personnel should be familiar with those plans and policies and be trained in the processes and procedures to be drilled.

Functional Exercises

The functional exercise is designed to test and evaluate individual capabilities, multiple functions or activities within a function, or interdependent groups of functions. It generally focuses on exercising the plans, policies, procedures, and staffs of the direction and control nodes of either incident command and unified command or the transportation agency's emergency response organization. Events are usually projected through an exercise scenario, with event updates that drive activity at the management level. The movement of equipment and personnel is simulated.

The objective of the functional exercise is to execute specific plans and procedures and apply established policies, plans, and procedures under crisis conditions, within a particular function or by a specific team. The functional exercise simulates the reality of operations in a functional area by presenting complex and realistic problems that require rapid and effective responses by trained personnel in a highly stressful environment. Activities in a functional exercise include

- Evaluating functions;
- Evaluating emergency operations centers (EOCs), headquarters, and staff;
- Reinforcing established policies and procedures;
- Measuring the adequacy of resources; and
- Examining interjurisdictional relationships.

Full-Scale Exercises

In a full-scale exercise (FSE), response elements are required to mobilize and deploy to a designated site in response to a simulated attack, generally for an extended period. Actual mobilization and movement of personnel and resources are required to demonstrate coordination and response capability. EOCs and field command posts are activated. The FSE is the largest, most costly, and most complex exercise type and may involve participation at the local, area, state, and federal levels. Although scripted events may be used, the exercise is primarily driven by player actions and decisions.

The FSE is used to evaluate the operational capabilities of systems, functional interfacing, and interaction during an extended period. It involves testing a major portion of operations plans and overall organization under field conditions. Activities in an FSE may include:

- Assessing organizational or individual performance;
- Demonstrating interagency cooperation;
- Allocating resources and personnel;
- Assessing equipment capabilities;
- Activating personnel and equipment locations;
- Assessing interjurisdictional cooperation;
- Exercising public information systems;
- Testing communications systems and procedures; and
- Analyzing memoranda of understanding (MOUs), standard operating procedures (SOPs), plans, policies, and procedures.

Compliance with the National Response Plan (NRP) and the National Incident Management System (NIMS)

In creating its progressive exercise program, each transportation agency should be aware that the G&T is coordinating the HSEEP with new requirements in the NRP and NIMS. The NRP (December 2004)

- Establishes a comprehensive, national, all-hazards approach to domestic incident management across a spectrum of activities;
- Is predicated on NIMS (March 2004), which is a nationwide template enabling government and nongovernmental responders to respond to all domestic incidents;
- Provides the structure and mechanisms for nation-level policy and operational coordination for domestic incident management;
- Does not alter or impede the ability of federal, state, local, or tribal departments and agencies to carry out their specific authorities; and
- Assumes that incidents are typically managed at the lowest possible geographic, organizational, and jurisdictional level.

The NRP directs federal involvement in major emergencies. NIMS is used by local responders to provide a framework that can support the integration of state and federal resources into the emergency response effort.

Figure 4 depicts the relationship between the NRP and NIMS.

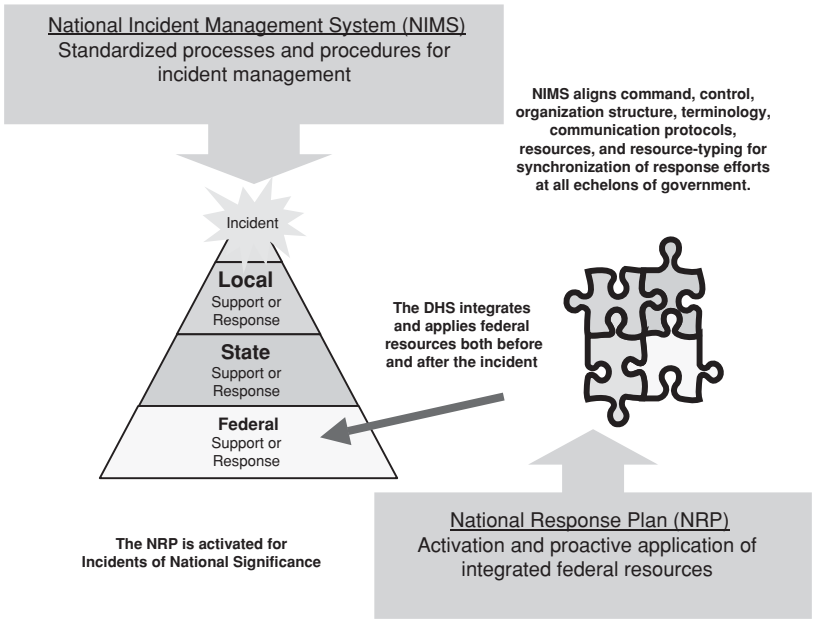

Figure 4 Relationship between the NRP and NIMS

The NRP distinguishes between incidents that require DHS coordination, termed *Incidents of National Significance,* and the majority of incidents occurring each year that are handled by responsible jurisdictions or agencies through other established authorities and existing plans. The DHS bases the definition of Incidents of National Significance on the following four criteria:

- A federal department or agency acting under its own authority has requested the assistance of the Secretary of Homeland Security.

- The resources of state and local authorities are overwhelmed, and federal assistance has been requested by the appropriate state and local authorities. An example is major disasters or emergencies as defined under the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

- More than one federal department or agency has become substantially involved in responding to an incident. Examples include credible threats; indications or warnings of imminent terrorist attack; acts of terrorism directed domestically against the people, property, environment, or political or legal institutions of the United States or its territories or possessions; and threats or incidents related to high-profile, large-scale events that present high-probability targets, such as National Special Security Events (NSSEs) and other special events as determined by the Secretary of Homeland Security, in coordination with other federal departments and agencies.

- The Secretary of Homeland Security has been directed to assume responsibility for managing a domestic incident by the President.

To prepare for these events, as specified by the DHS in the NRP, state governments must develop emergency operations plans (EOPs) compliant with NRP requirements by April 30, 2005, or, at the latest, during the state's next established cycle for updating its EOP. It is anticipated that requirements in state EOPs will affect municipal and county emergency planning activities, which, in turn, will impact transportation agencies.

In addition, NIMS has specific requirements for local emergency management and public safety agencies. These requirements must be implemented by the end of fiscal year 2006. State-level activities include

- Incorporating NIMS into state EOPs;

- Incorporating NIMS into existing training programs and exercises;

- Ensuring that federal preparedness funding supports state, local, and tribal NIMS implementation;

- Promoting intrastate mutual aid agreements;

- Coordinating and providing NIMS technical assistance to local entities; and

- Institutionalizing the use of the incident command system.

Affected jurisdictions should support NIMS implementation by doing the following:

- **Completing the NIMS Awareness Course, "National Incident Management System (NIMS), An Introduction" IS 700.** This independent study course developed by the Emergency Management Institute (EMI) explains the purpose, principles, key components, and benefits of NIMS. The course is available at http://training.fema.gov/EMIWeb/IS/is700.asp.

- **Formally recognizing NIMS and adopting NIMS principles and policies.** States, territories, tribes, and local entities should establish legislation, executive orders, resolutions, or ordinances to formally adopt NIMS. Go to http://www.fema.gov/nims and click on Tools and Templates for examples.

- **Establishing a baseline by determining which NIMS requirements are already addressed.** State, territorial, tribal, and local entities have already implemented many of the concepts and protocols identified in NIMS. As gaps in compliance with NIMS are identified, states, territories, tribes, and local entities should use existing initiatives—such as the G&T Homeland Security grant programs—to develop strategies for addressing those gaps.

- **Establishing a timeframe and strategy for full NIMS implementation.** States, territories, tribes, and local entities are encouraged to achieve full NIMS implementation during FY 2005. To the extent that full implementation is not possible during FY 2005, which ends on Sept. 30, 2005, federal preparedness assistance must be leveraged to complete NIMS implementation by Sept. 30, 2006. Beginning FY 2007 (Oct. 1, 2006), federal preparedness assistance will be conditioned by full compliance with NIMS. States should work with the tribal and local governments to develop a strategy for statewide compliance with NIMS.

- **Institutionalizing the use of the incident command system (ICS).** If state, territorial, tribal and local entities are not already using ICS, then they must institutionalize the use of ICS (consistent with the concepts and principles taught by the DHS) across the entire response system.

Additional information on NRP and NIMS requirements can be found at http://www.fema.gov/nims/nims.shtm and at http://trb.org/news/blurb_detail.asp?id=6007. To enhance transportation capabilities to address these requirements, **Attachment 1** of these guidelines contains a set of introductory materials explaining NRP and NIMS requirements and highlighting specific areas that may affect transportation agencies.

DHS Mission Outcomes

In addressing NRP and NIMS requirements, whether at the state level (state DOTs) or the local level (transportation management centers and transit agencies), transportation emergency procedures and training will be developed or revised. Emergency exercises provide an important way to verify the capabilities of participants to address new requirements, protocols, and practices. To ensure that emergency exercises support implementation of NRP and NIMS requirements, the DHS has developed eight mission outcomes to guide the evaluation of all emergency exercises. These mission outcomes are presented in Table 3.

Using the DHS mission outcomes, transportation agencies and their partners can develop exercise evaluation criteria to assess performance of critical activities and to identify measures to benchmark capabilities and needs. **Attachment 2** provides an exercise evaluation guide created specifically for transportation agencies to provide sample evaluation and performance measures to be used during transportation exercises, following the DHS mission outcomes. Additional information on using this exercise evaluation guide is provided in Section 5 of these guidelines.

TABLE 3 DHS MISSION OUTCOMES FOR EXERCISE EVALUATION

Mission Outcome	Title	Definition
I	Prevention and Deterrence	The ability to prevent, deter, or protect against terrorist actions and to identify and prepare for natural disasters.
II	Emergency Assessment	The ability to detect an incident, determine its impact, classify the incident, conduct environmental monitoring, and make agency-to-agency and government-to-government notifications.
III	Emergency Management	The ability to direct, control, and coordinate a response; provide emergency public information to the population at risk and the population at large; and manage resources—this outcome includes direction and control through the incident command system, EOC, and joint information center.
IV	Incident Site/Hazard Mitigation	The ability to control, collect, and contain an incident at its source and to mitigate the magnitude of its impact—this outcome also includes all response tasks conducted at the incident scene except those specifically associated with victim care.
V	Public Protection	The ability to provide initial warnings to the population at large and the population at risk; to direct people to shelter-in-place or evacuate; to provide evacuee support (e.g., transportation for evacuees, a reception center, and sand shelters); to protect special populations (e.g., people in schools, people with disabilities, transit-dependent people, and incarcerated people); and to manage traffic flow and access to the affected area.
VI	Victim Care	The ability to treat victims at the scene, transport patients, treat patients at a medical treatment facility, track patients, handle and track human remains, and provide tracking and security of patients' possessions and evidence.
VII	Investigation/Apprehension	The ability to investigate the cause and source of the attack; prevent secondary attacks; and identify, apprehend, and prosecute those responsible.
VIII	Recovery/Remediation	The ability to restore essential services, restore businesses and commerce, clean up the environment, render the affected area safe, compensate victims, provide long-term mental health and other services to victims and the public, and restore a sense of well-being in the community.

3.0 Establishing a Progressive Exercise Program in the Transportation Environment

To establish a progressive exercise program, the transportation exercise coordinator should first review the agency's existing exercise program to determine if it is sufficiently organized and if it can be adapted to effectively meet the demands of the changing preparedness environment.

Figure 5 shows the requirements that should be addressed to establish a progressive exercise program for a transportation agency. This figure shows the emphasis placed on management, support, administration, delivery, and quality assurance.

A progressive exercise program requires activity to ensure management, support, administration, delivery and quality assurance.

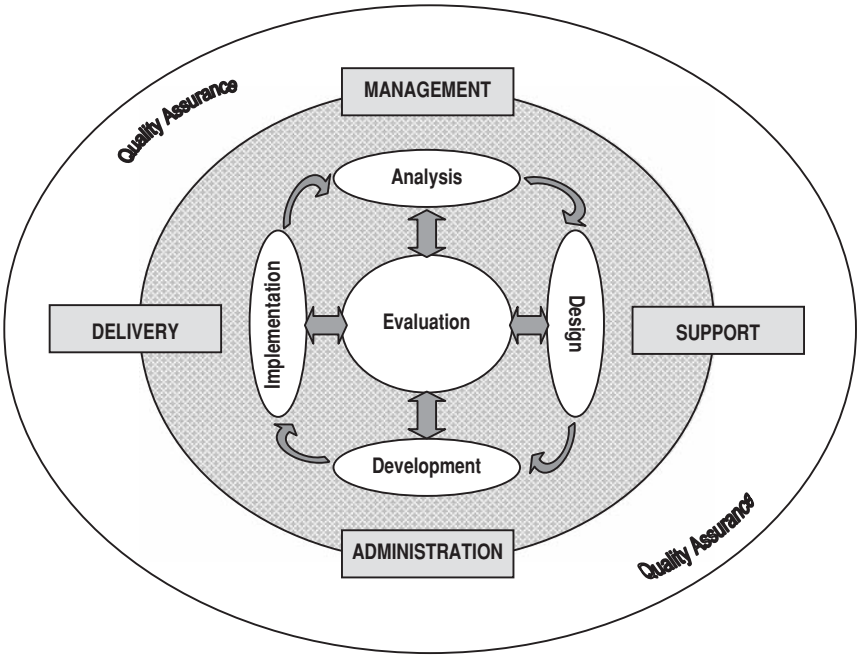

Figure 5 Objectives of Transportation Progressive Exercise Program

- **Management** refers to the organizational structure established to coordinate and run the progressive exercise program. This includes the identification of dedicated staff, consultants, and committees or task forces with members from other participating agencies to organize and conduct the program. Key management activities involve

  - Establishing an internal organization to develop and manage the program, including exercise planning and evaluation teams for scheduled exercises;
  - Identifying external agency partners and establishing supporting task forces or committees;
  - Identifying roles and responsibilities (e.g. hiring full-time or part-time staff or consultants) for exercise development, implementation, evaluation, and overall program management;
  - Establishing an annual and 3-year exercise schedule and budget;
  - Conducting a needs assessment and review of existing emergency plans, procedures, policies, job aids, and training and identifying targeted areas of focus for the exercise program;

- Establishing goals and objectives within each targeted area of focus; and
- Conducting an annual review of the exercise program to ensure that objectives are being met and to revise or update the progressive exercise program schedule.

- **Support** refers to the activities required to obtain resources necessary to conduct the program, including grant funding; agency funding; pooled funding with other agencies; personnel to design, conduct, and evaluate exercises and to monitor the implementation of improvements identified during evaluation; and equipment necessary to support exercises.
- **Administration** refers to activities performed to manage grant applications and requirements; to coordinate meetings among internal staff, consultants, and external response agencies during the exercise design, implementation, and evaluation process; and to track completed resolution of issues and recommendations arising from an exercise, ensuring that action is taken and that improvements are made.
- **Delivery** refers to the final results of the program and ensures that all supporting materials necessary for each exercise are developed, that the exercises are conducted, that evaluations are performed, that final AARs and improvement plans are prepared, and that recommendations are implemented.
- **Quality Assurance** refers to activities taken by the transportation agency to ensure that the progressive exercise program meets goals and objectives, complies with grant program requirements, adequately coordinates with external emergency response partners, and monitors the implementation of recommended improvements.

Steps in the Process

This section describes the steps necessary for a transportation agency to establish a progressive exercise program.

Create an Organization

To establish the progressive exercise program, the transportation exercise coordinator should first work within the agency to develop and recommend an appropriate organizational structure for managing the program. Transportation agencies have taken many different approaches in developing their organizations:

- Larger transportation agencies, and medium-sized agencies with resources devoted to exercising, have hired full-time exercise coordinators to manage the program, supported by part-time personnel allocations from training, safety and security, operations, and maintenance departments; consultants; and organized committees consisting of local responders. Grant management and contracting departments also offer support.
- Medium-sized and smaller agencies with limited resources have assigned the exercise function as an additional task to an existing position within their organization. This assignment may go to a senior member of the training, safety, or security departments or may go to a senior manager in operations or even maintenance (for highway organizations). At most, the transportation exercise program can be coordinated half-time by a senior manager with other responsibilities. As with the larger agencies, part-time support is often available from training, safety, security, operations, and maintenance departments. Consultant support is also often available for specific exercises, and an organized committee consisting of local responders may also support the effort. Grant management issues may be limited under these circumstances, and the time and resources may not be available to manage applications and program requirements.
- Small agencies are often significantly hindered by a lack of resources. These agencies may not have senior managers available to coordinate a progressive exercise program, even on a part-time basis.

Depending on their size, transportation agencies have developed different types of organizations to manage emergency exercise programs.

Small agencies have used consultants to prepare these programs, and these agencies coordinate closely with local responders. Small agencies offer their vehicles and facilities to support emergency exercises, and work to be included in the exercise programs are developed by larger transportation agencies and local emergency responders. Some small agencies have been able to manage grant applications and to receive funding to support exercise programs from local, state, and federal sources.

Depending on the size of the transportation organization, activities to create an organization for the progressive exercise program may include

- Assigning responsibility for the progressive exercise program to a full-time position or part-time to an existing position;
- Creating a committee or task force of internal staff and/or external responders to oversee the program;
- Establishing permanent or ad hoc working groups with local responders and others who may participate in the transportation agency's exercises.
- Developing a program schedule that identifies activities to be performed over the 3-year exercise cycle; and
- Establishing a budget for the program, including the identification of internal resources and outside grant programs and pooled funding sources.

When establishing the progressive exercise program, the transportation coordinator should consider which personnel would be used to develop both discussion-based and operations-based exercises. For example, representatives from the training department may be ideally suited to incorporate seminars and workshops into their existing training programs. Special interagency committees could be used to coordinate with ad hoc or permanent working groups (representing external exercise participants) to develop tabletops, games, drills, functional exercises, and full-scale exercises. Consultants and partners in public safety agencies may be able to support the development, conduct, and evaluation of exercises.

A sample request for proposal (RFP) for contractor support is available at http://www.loep.state.la.us/newsrelated/3%20Phase%20exercise%20RFP.doc.

FEMA and transportation agency experience has shown that, for most transportation agencies, one to three people can effectively coordinate most of the activities required to develop discussion-based exercise (seminars, workshops, tabletops and games) when they are adequately supported by the ad hoc or permanent working group.

Depending on both the size of the transportation organization and the level of expertise required, operations-based exercise (drills, functional exercises, and full-scale exercises) can typically be developed and coordinated by three to five people, with significant support from the external agency working group.

Establish a Program Foundation

Once the program organization is created and personnel requirements have been established, a foundation should be created for the program that defines the program's functions and activities. Typically, this foundation has the following components:

- **An Exercise Program Plan or Procedure:** The transportation exercise organization should formalize its program and receive endorsement and approval from executive leadership. To accom-

Transportation agencies develop plans, policies and procedures to formalize their exercise programs and receive approval from executive leadership.

plish this objective, some agencies have developed extensive plans that document their progressive exercise programs, exercise methodologies, resources, and capabilities. Other transportation agencies have developed brief plans that contain only

- A statement of purpose for the exercise program;
- Exercise program goals and objectives;
- A commitment to a 3-year progressive exercise cycle;
- The intention to use both discussion-based and operations-based exercises, to evaluate exercises using proven methodologies, and to create after action plans and improvement plans to be addressed by the transportation organization;
- Requirements and authorities needed by the program; and
- The current version of the 3-year exercise schedule.
- Instead of a plan, some transportation agencies have opted to formalize their exercise program in a procedure that is approved by executive management and by the safety, security, operations, and maintenance departments.
- It does not matter whether a plan, procedure, policy, or some other method is used. It is only important that the transportation agency's exercise program be formally constituted and given the authority and resources necessary to manage the program.

- **Needs Assessment and Focus Areas:** The transportation exercise coordinator, supported by transportation personnel, consultants, and/or members of local responder agencies, should conduct a careful review of threat and vulnerability assessments conducted by the agency; existing emergency response plans, policies, procedures, job aids, training; and emergency response experience. Based on this review, the coordinator should identify focus areas that will guide the transportation agency's progressive exercise program. Material to support this activity is available in **Attachment 3.**

Exercises included in the program will address these areas and help to ensure that, through evaluation, needed improvements are identified and incorporated into the transportation agency plans, procedures, training, and operations. Transportation agencies typically identify three to five focus areas for each 3-year cycle. Sample focus areas include

Focus areas will guide the development of the progressive exercise program and support the creation of specific objectives to guide exercise evaluation.

- The timeliness and accuracy of incident reporting;
- The quality of situation assessment for the reported incident;
- The adequacy of communication of the incident to the appropriate responding organizations;
- The capability to mobilize and dispatch sufficient personnel and proper equipment to deal with the incident;
- The ability to identify accessibility problems for first responders in reaching the site of the emergency on the transportation system and to support their access to transportation facilities and equipment;
- The ability of the organization to effectively evacuate passengers, employees, contractors, and visitors from facilities, vehicles, maintenance shops, and other areas to a safe location;

- The capability to combat fire, hazardous materials, and chemical or biological substances;
- The capability to support on-site triage for injured victims and the transportation of the injured to medical facilities;
- The capability to safely perform a variety of tasks necessary to ensure the safety of the emergency scene on the transportation system, including structural assessments, debris removal, de-energizing power systems, or containment of hazardous materials;
- The capability to use communications systems and technology to coordinate field and management activities both internally and with external response agencies throughout the incident;
- The capability of the transportation response to be integrated into the local incident command system;
- The timeliness, appropriateness, and accuracy of information provided to the news media; and
- The adequacy of coordination among multiple responding organizations.

Create Realistic Expectations Regarding Required Resources

Table 4 depicts a worksheet that can be used to summarize a large transportation agency's progressive exercise program. This table demonstrates the number of participating agencies that can be effectively incorporated into a progressive exercise program, thereby promoting transportation readiness and community readiness. This type of program cannot be achieved without considerable commitment from the transportation agency's senior management.

A critical part of commitment is clearly detailing for the transportation agency's executive leadership the activities to be performed and the resources required to perform them. Based on estimates provided by FEMA, the G&T, and interviewed transportation agencies, the progressive exercise program depicted in Table 2 would require almost $180,000, not including the 3-year cost of a dedicated exercise coordinator and the part-time labor provided by transportation personnel from other departments. Factoring in these costs, the true estimate for a program of this magnitude is closer to $500,000 over 3 years. Smaller agencies, with considerably less ambitious programs, many fewer participants, and only part-time staff, can typically expect to spend between $70,000 and $150,000 over 3 years.

Whatever the size of the agency, if executive leadership understands these costs and supports them, then the program will have a strong foundation for accomplishing its objectives. Management will support transportation participation in progressive exercise programs developed by local responders and emergency management agencies, enabling the transportation agency to piggy-back on the resources expended by its partners in local, state, and federal government. If senior management does not have the resources to commit to the program, with full access to the cost and activity information, informed decisions cannot be made regarding ways in which to cut expenses and remove exercise activities.

Outside funding sources are available to support transportation progressive exercise programs.

Seek Outside Funding

Since September 11, federal, state, and local agencies are funding exercise programs at high levels. Transportation agencies may be able to considerably offset the cost of their progressive exercise programs by submitting grant applications to a variety of municipal, county, state, and federal agencies.

Two primary sources of grants are the G&T and FEMA. URLs for their grant pages are presented below.

- http://www.ojp.usdoj.gov/odp/grants_goals.htm.
- http://www.fema.gov/fema/first_res.shtm.

TABLE 4 SAMPLE WORKSHEET DOCUMENTING ELEMENTS OF A LARGE TRANSPORTATION AGENCY'S PROGRESSIVE EXERCISE PROGRAM

Type of Exercise[1]	*Required Materials*[2]	*Situation/Topic Addressed*[3]	*No. of Players*[4]	*Proposed Dates*[5]	*Cost*[6]	*Participants*[7]									*Required Meetings*[8]
						TA	*LE*	*FD*	*EMS*	*EMA/ EOC*	*HAZ*	*Media*	*PW&U*	*Other*	
Seminar	• Agenda • PowerPoint Presentation	Overview of Transportation Exercise Program	140	1st Quarter, Year 1	$1,500	10	30	30	20	5	10	15	10	10	n.a.
Workshop	• Agenda • Action List	Planning for Tabletop	25	2nd Quarter, Year 1	$1,000	5	3	3	3	1	2	2	1	5	n.a.
Tabletop	• Agenda • Exercise Package • After Action Report • Corrective Action Plan	Improvised Explosive Device (IED) Detonated in Transportation Facility	90	3rd Quarter, Year 1	$30,000	40	10	10	10	4	6	3	2	5	4 required
Game	• Agenda • Exercise Package • After Action Report • Corrective Action Plan	48-Hour Blackout	45	1st Quarter, Year 2	$10,000	20	4	4	4	1	0	0	5	7	3 required
Drill	• Agenda • Exercise Package • After Action Report • Corrective Action Plan	Evacuation of Transportation Facility with Suspicious Package	50	3rd Quarter, Year 2	$15,000	40	1	1	1	1	1	0	1	4	2 required
Functional Exercise	• Agenda • Exercise Package • After Action Report • Corrective Action Plan	Chemical Agent Release in Transportation Facility	150	1st Quarter, Year 3	$50,000	60	20	20	10	3	10	10	2	15	4 required
Full-Scale Exercise	• Agenda • Exercise Package • After Action Report • Corrective Action Plan	Radiological Dispersal Device (Dirty Bomb) Detonated in Transportation Facility	225	3rd Quarter, Year 3	$70,000	70	30	20	10	5	10	10	10	60	5 required

ABBREVIATIONS:
TA = Transportation Agency
LE = Law Enforcement
FD = Fire Department
EMS = Emergency Medical Services
EMA/EOC = Emergency Management Agency/Emergency Operations Center
HAZ = Hazardous Materials Response Unit
Media = Media Partners to Support Public Information Dissemination
PW&U = Public Works and Utilities
Other = Vendors Supporting Critical Transportation Systems, Actors (wearing special effect makeup to show the injury symptoms, or "moulage"), Tenants in Shared Facilities, Urban Search and Rescue, and Volunteer Organizations

NOTES:
[1]Indicates the type of exercise to be conducted.
[2]Indicates the materials to be developed to support the exercise. For most tabletops, functional exercises, and full-scale exercises, the exercise package will include an exercise plan (EXPLAN); control staff instructions (COSIN); and an evaluation plan (EVALPLAN).
[3]Indicates the topic to be addressed in the exercise.
[4]Indicates the total number of participants in the exercise.
[5]Indicates when, during the 3-year planning cycle, the exercise will occur.
[6]Indicates the cost to conduct the exercise. The sample costs presented are based on FEMA and G&T guidelines, typically for consultant costs and simulation equipment.
[7]Indicates the number of participants by representative agencies.
[8]Indicates the number of planning meetings necessary to prepare the exercise.

Grant programs described on these websites that are open to transportation agencies and their response partners for transportation-based exercises include the following:

- Homeland Security Grant Program (G&T);
- Urban Area Security Initiative (UASI)—Mass Transit System Security Grant Program (G&T);
- Emergency Management Assistance Grant Program (FEMA);
- State and Local Domestic Preparedness Exercise Support (FEMA); and
- Emergency Management Performance Grants (FEMA).

Each state that receives G&T or FEMA grants has a state administrative agency (SAA). Transportation agencies are urged to contact their SAAs to identify grant programs and submission deadlines. Initial contacts at state departments of homeland security can be found at http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0291.xml.

Typically, exercise grant programs have a period of application that may be open for 1 to 3 months. SAAs and other funding organizations have worked to reduce the complexity of the application process. In many cases, applications require fewer than 10 pages to be filled out. Most grants have fixed terms and conditions. For example, all grant funds must be obligated or encumbered through a valid purchase order, requisition, or contract by a fixed date from the award of the grant, and all funds must be liquidated within a fixed number of days of the conclusion of the grant period.

Grant programs for exercises typically cover the following costs:

In addition to a full accounting of costs, most grant programs for emergency exercises require the grantee to submit deliverables used in conducting the exercises, as well as after action reports and improvement plans.

- **Full or Part-Time Staff or Contractors:** Full- or part-time staff may be hired to support exercise-related activities. Payment of salaries and fringe benefits must adhere to the policies of the state or the awarding agency, whichever is applicable. The services of contractors may also be procured for the design, development, conduct, and evaluation of exercises.
- **Overtime:** Payment of overtime expenses will be for work performed by awarded or sub-awarded employees in excess of the established work week (usually 40 hours). In no case is dual compensation allowable.
- **Travel:** Travel costs (i.e., airfare, mileage, per diem, hotel, and other items) are allowable as expenses by employees who are traveling on official business related to planning and conducting the exercise projects. These costs must be in accordance with either the federal travel policy or an organizationally approved travel policy.
- **Supplies:** Supplies are items that are expended or consumed during the course of the planning and conduct of the exercise projects (e.g., copying paper, gloves, tape, and nonsterile masks).
- **Other Items:** Other costs include exercise signs, badges, and the rental of space for exercise planning and implementation.

A sample SAA grant application is provided in Figure 6. Typically, transportation applicants that win grants are required to use the grant to not only perform the proposed exercise, but also provide other deliverables, usually specified in the grant application. Based on the type of exercise conducted, the documents may include

- A scenario technical description;
- A situation manual or player handbook;

GRANT APPLICATION FORM

Date_____ Organization_____

Level of Government (check one category): Municipality_____ County_____ State_____

Contact Name_____

Address_____

City_____ State_____ Zip_____

Telephone_____ Fax_____

E-Mail_____

What part of your operation do you want to exercise? *Check all applicable categories.*

_____ Test policies, plans, and procedures
_____ Clarify and train domestic preparedness personnel in roles and responsibilities
_____ Improve interagency coordination and communications
_____ Identify gaps in resources
_____ Improve individual performance
_____ Identify ways to improve domestic preparedness agencies
_____ Other – please describe:_____

Which specific procedure or operation do you want to exercise? *(List three to five procedures. Examples include decontamination, resource management, mutual aid, and multiple-agency communication.)*

_____

_____

At what location do you want the exercise to take place?

_____

What type of exercise do you want to conduct? *Check all applicable categories.*

_____ Seminars
_____ Workshops
_____ Tabletops
_____ Games
_____ Drills
_____ Functional Exercises
_____ Full-Scale Exercises

Who will participate in the exercise? *List all agencies and personnel to be involved.*

_____

_____

_____

_____

Describe the objectives of your proposed exercise.

_____

_____

_____

_____

FIGURE 6 GRANT APPLICATION FORM (continued)

Narrative statement (*a brief scenario that sets the stage for an exercise*):

Total grant funding requested (*Exercise Budget Detail Worksheet attached to this application*)

_____

EXERCISE BUDGET DETAIL WORKSHEET

Agency_____ Date_____

Instructions:

Exercise Costs: Provide, for each Exercise Budget Category, a brief description of how the funds will be used and the amount allocated to the category. Use additional pages as needed. Indicate the total allocation at the bottom of the chart.

Exercise Budget Category	**Items**	**Amount**
Personnel (Full- and Part-Time)		
Subtotal:		
Overtime		
Subtotal:		
Travel		
Subtotal:		
Supplies		
Subtotal:		
Other Items		
Subtotal:		
Total Allocation		

FIGURE 6 (*Continued*)

- An exercise plan;
- An evaluation plan;
- A master scenario events list;
- An after action report;
- An improvement plan; and
- Interim products, such as meeting minutes, presentations, and agendas.

Establish Program Elements

Recent evaluations of transportation experience show that the following elements should be ensured in the creation of a progressive exercise program:

Careful consideration given to program elements enables the transportation agency to clarify its objectives, requirements, budgets, and schedules.

- The full range of exercises, including tabletops, walk-throughs, targeted mini-drills, full-scale drills, and functional and full-scale exercises, are all part of the program.
- Exercises are designed to ensure that all qualified individuals for each position in the transportation emergency response organization strengthen task-related knowledge through periodic participation.
- Exercise performance is assessed against specific scenario objectives, including previously identified weaknesses, using postulated events and conditions that adequately test personnel, equipment, and resources.
- Exercises properly assess the initial incident and establish a firm command and control structure. This involves clearly explaining and making certain that roles and responsibilities are understood (especially with off-site responders).
- Exercises require the response organization to demonstrate effective on-site and off-site communications to support emergency response activities.
- Effective player, controller, and observer training and briefings are conducted.
- Effective control techniques are demonstrated regarding player actions in response to scenario conditions. The use of identification badges and vests to distinguish among evaluators, controllers, and other participants is encouraged.
- Exercises use knowledgeable, impartial evaluators to identify and evaluate participant performance, scenario strengths and deficiencies, and equipment problems.
- Simulation and prestaging of equipment and personnel are minimized to realistically test the activation and staffing of emergency facilities and the performance of the organization under emergency conditions.
- Critiques are conducted in a timely manner.
- Feedback is disseminated to the response organization.
- Documentation is provided for all phases of the exercise, including an AAR and an improvement plan.
- Plans for correcting identified weaknesses and improving training effectiveness are developed and implemented.

- Exercises challenge emergency public information organizations to demonstrate the ability to collect, verify, and disseminate accurate, reliable, and understandable information.
- Sufficient emergency equipment is available to permit use during exercises without reducing supplies below desired levels.[4]

Consideration of these elements is used to identify the scope of the exercise, its purpose, the organizations that are participating, the level of participation for each organization, and evaluation metrics for each participating agency. During the exercise design, this information is used to identify the functions and tasks that each organization should accomplish and to prepare the scenario. This information also identifies organizations or functions that must be simulated based on levels of participation.

In reviewing these elements, the transportation exercise coordinator should consider how specific types of exercises (seminars, workshops, tabletops, games, drills, functional exercises, and full-scale exercises) could be integrated into the transportation training and emergency preparedness program. For each type of exercise, clear objectives must be identified. These objectives are based on the needs assessment and focus areas, requirements specified in grant funding programs, and consideration of the elements identified above.

Establish Documentation Requirements and Exercise Development Timelines

Table 5 lists typical exercise products for all seven types of exercises. Depending on available resources, capabilities, and needs, transportation agencies should determine the types of exercise products that it will be able to develop during its 3-year exercise cycle.

The transportation agency should also identify the schedule for conducting exercises throughout the 3-year cycle. Based on a preliminary schedule, the transportation agency can begin to develop the more detailed timelines necessary to guide exercise development, conduct, and evaluation. More information on timelines for exercise development will be provided in Sections 4 and 5 of these guidelines.

Consider Key Activities Performed by Transportation Personnel during Emergencies

As the last step in creating an exercise program, transportation exercise coordinators should consider preparing a table or list of the types of activities performed by distinct categories of transportation personnel in responding to emergencies. Table 6 lists some of these activities using a typical incident management organization for a transportation agency.

Since the ultimate goal of the exercise program is to improve the transportation agency's capabilities to manage these activities, the transportation exercise coordinator can use this list to show top management and others who must support the exercise program. A clear identification of these activities can help to make the proposed exercise program more accessible to decision-makers and potential partners during meetings and when evaluating proposals.

[4] *Development of Guidelines for Planning, Conducting, and Evaluating Transit Emergency Operations Exercises: Task #2: Compendium of Drill Practice.* Federal Transit Administration (Washington, DC), March 4, 2004, pg. 28.

TABLE 5 TYPICAL EXERCISE PRODUCTS

Exercise	Seminar	Workshop	Tabletop	Game	Drill	Functional	Full-Scale
Scenario Technical Description					•	•	•
Seminar Leaders Guide	•	•					
Situation Manual/Player Handbook	•	•	•				
Results Summary	•						
Recorder Forms				•			
Exercise Plan						•	•
Control Staff Instructions						•	•
Master Scenario Events List						•	•
Communications Directory				•		•	•
Controller/Evaluator Briefing						•	•
Evaluation Plan						•	•
Controller/Evaluator Packets						•	•
Role Player/Action/Victim Brief						•	•
Full-Scale Exercise Liability Waiver					•	•	•
Player Briefing				•	•	•	•
Procedural Flow				•	•	•	•
Synchronization Matrix					•	•	•
Controller/Evaluator Identifying Garments					•		•
Exercise Participants Badges	•	•	•	•	•	•	•
Hot Wash/After Action Review Briefing				•	•	•	•
Summary Report	•	•			•		
After Action Report			•	•	•	•	•
Corrective Action Plan			•	•	•	•	•

TABLE 6 ACTIVITIES PERFORMED BY TRANSPORTATION AGENCY DURING AN EMERGENCY

Responding Element	Key Activities
Transportation Front-Line Employee	► Reports incident to transportation management center ► Establishes transportation agency response at scene ► Coordinates with on-scene emergency responders ► May serve as transportation incident commander until relieved by a supervisor
Transportation Agency Incident Commander	► Establishes a transportation agency command post ► Takes command and control of the transportation scene and/or transportation agency employees until relieved by senior supervisor ► Ensures the safety of motorists/passengers, first responders, and employees ► Requests additional assistance as needed ► Communicates with transportation management center, field supervisors, maintenance, and transportation specialists (power, vehicles, infrastructure, etc.) ► Prepares a site safety plan ► Establishes a system for the tracking and credentialing of transportation agency employees and resources at the scene ► Documents all activities ► Communicates with external emergency response agency incident commander ► Supports/joins in unified command ► Conducts a debrief for shift or commander changes and upon completion
Transportation Agency Incident Management Team	► Supports the transportation incident commander at scene ► Supports motorists, passengers, and emergency responders at scene ► Requests resources ► Performs activities required to stabilize the scene ► Supports staging of resources and completion of required activities ► Monitors scene safety and briefs transportation incident commander
Transportation Dispatch/Management Center	► Communicates with the transportation incident commander regarding on-scene transportation issues, updated situation assessments, and resource requests ► Supports communications between the transportation incident commander and the transportation agency emergency operations center ► Coordinates with other responding agency dispatch centers regarding resource requests and requirements ► Conveys requests from local/regional/state emergency operations center ► Manages the affected transportation system ► Manages the elements of the transportation system not affected by the emergency
Transportation Agency Emergency Operations Center	► Activates transportation emergency plans and authorizes extended staffing plans ► Led by emergency management director (usually executive director, general manager, or other high-ranking executive within the transportation agency) ► Coordinates with external agencies regarding requests and decisions ► Coordinates with local/regional/state emergency operations center ► Develops short- and long-term strategies for managing both the affected transportation system and elements of the system not affected by the emergency ► Authorizes emergency procurements ► Provides resources, materials, and supplies ► Documents event ► Prepares and implements mid- or long-term strategy for recovery operations ► Provides communications to the transportation agency's internal board or other governmental entity, unions, emergency agencies, the media, and the public

4.0 Discussion-Based Exercises

This section describes the process that can be used by transportation agencies to develop the discussion-based exercises specified in the progressive exercise program, concentrating on the tabletop exercise. Section 5 presents this process for operations-based exercises.

Whether conducted for discussion-based or operations-based exercises, the exercise planning process involves considerable coordination within the transportation agency and among potential participating agencies and officials. The planning process includes convening a planning team, setting program management timelines, conducting planning conferences, identifying exercise design objectives, developing the scenario and documentation, assigning logistical tasks, managing the exercise, and identifying the evaluation methodology.

Overview

Although seminars, workshops, and games are types of discussion-based exercises, the most commonly used discussion-based exercise in transportation is the tabletop. In the transportation environment, a tabletop exercise is typically a 4- to 8-hour facilitated discussion centered on an incident scenario. The scenario unfolds in discrete time periods (e.g., over 24 hours from incident detection and verification through notification, initial response, dispatch and mobilization of resources, evacuation and treatment of the injured, damage assessment and repair, stabilization of the scene, and gradual restoration of service).

Tabletops require a set of coordinated planning activities to be successfully conducted and evaluated.

The basic outline of events and response under way during each time period is portrayed in short briefings (using PowerPoint presentations, photographs, video clips, or other means of communication). At the end of each briefing, a caucus period provides participants with the opportunity to discuss the issues associated with responding to the scenario presented. In addition to the briefings, a situation manual (sometimes called a player's handbook) is provided that corresponds with the briefings and provides additional details about the incident and response.

To facilitate discussion, participants are divided into small groups by functional area. Participants are encouraged to periodically migrate between groups to foster communication. At the conclusion of each caucus session, a spokesperson from each group will report back to all attendees about what was discussed.

After the tabletop is complete, a series of evaluation activities will be performed to assess performance and identify areas of improvement. First, a debrief is performed among participants to gather their assessments regarding the tabletop. Then, an AAR will be developed to document the tabletop, and an improvement plan will be prepared to integrate recommendations into the transportation agency emergency planning, training, and exercise programs.

Exercise Planning Team

The exercise planning team is responsible for designing, developing, conducting, and evaluating all aspects of transportation emergency exercises. The planning team determines exercise design objectives; tailors the scenario to transportation and jurisdictional needs; and develops documents used in simulation, control, and exercise evaluation.

The exercise planning team for discussion-based exercises is typically smaller than the team needed for operations-based exercises. As explained in Section 3 of this report, in the transportation environment, one to three persons can typically organize a tabletop exercise or game when supported by consultants and members of an ad hoc team, committee, or task force assembled with local responders.

The exercise planning team is often managed by a lead exercise planner (also referred to as the exercise director, exercise planning team leader, or point of contact). The team should be a manageable

size (3 to 10 people) and include a representative from each major participating jurisdiction and response agency.

A successful exercise planning team

- Addresses the transportation agency's emergency response structure (whether this is based on the incident command system [ICS] or an agency-specific emergency response structure);
- Employs project management principles;
- Clearly defines roles, responsibilities, and functional area skills;
- Highlights leadership and teamwork;
- Follows a standardized exercise design and development process; and
- Calls on the support of senior officials.
- In addition to transportation personnel, membership on the exercise planning team might include appropriate community members representing emergency management and response partners, medical partners, other transportation partners, key vendors, and working and knowledgeable members of the transportation agency.

Project Management Timeline

Based on the progressive exercise program established for the transportation agency, timelines for developing discussion-based exercises should be established. In the transportation environment, planning for games and tabletops typically takes 3 to 6 months. A typical timeline is presented in Table 7.

Planning conference materials help create the tabletop.

Planning Conference Materials

Planning conferences are meetings used to develop critical elements of the exercise and include at least one representative from all participants in the exercise. The lead exercise planner and the exercise planning team should decide on the number of meetings to successfully conduct a given exercise. Also, work plans should be developed by the exercise planning team to generate materials to be used in the conferences. Typically, these materials include an agenda, the rationale for conducting the discussion-based exercise, the transportation agency exercise objectives, and a draft scenario. These materials are sometimes called a "read-ahead package" and can greatly increase the efficiency of the conferences.

While the number of planning conferences necessary for a transportation-based tabletop or game can vary, usually at least two planning conferences are conducted: the initial planning conference (IPC) and the final planning conference (FPC).

The IPC builds the framework for executing exercise design, development, control, conduct, and evaluation among the participants. Specifically, the IPC addresses the exercise purpose and overarching exercise objectives, conditions that affect exercise design (i.e., assumptions and artificialities), exercise design requirements, anticipated levels of participation, proposed exercise locations, control and evaluation methodologies, and tasks to participants.

The IPC presents the basic scenario, scope, and timeline developed in draft by the exercise planning team. It offers a chance to solicit input for each participant's objectives and build consensus among participants on exercise expectations. The purpose of this conference is to reach an agreement on the exercise concept and overall objectives, develop working groups, and select working group leaders.

Once action items identified in the IPC have been adequately addressed and all assigned activities have been completed, the transportation agency may hold an FPC with all participants. This conference is

TABLE 7 TYPICAL PROJECT MANAGEMENT TIMELINE

Tabletop Exercise Activity	Time Before and After Exercise (E) Day
Establish Date of Tabletop	E–120 days
Develop Tabletop Concept, Select Date of Initial Planning Conference	E–120 days
Prepare and Mail Initial Planning Conference Read-Ahead Packet	E–110 days
Prepare Initial Planning Conference Brief	E–93 days
Conduct Initial Planning Conference	E–90 days
Prepare and Approve Initial Planning Conference	E–83 days
Prepare and Print Draft Situation Manual	E–52 days
Review Materials for Final Planning Conference	E–50 days
Conduct Final Planning Conference	E–45 days
Prepare and Approve Final Planning Conference	E–38 days
Finalize Situation Manual	E–15 days
Finalize Multimedia Presentations (Coordinated with Situation Manual)	E–7 days
Set Up Facility and Review Presentation	E–1 day
Conduct Tabletop	E day
Collect and Analyze Data (Participant, Observer, Evaluator)	E+21 days
Draft an After Action Report (Forward It for Participant Review)	E+28 days
Receive Participant Review Comments on After Action Report	E+49 days
Finalize After Action Report	E+60 days
Distribute Final Exercise Evaluation Report (EER)	E+75 days
Develop Improvement Plan	E+105 days
Implement Improvement Plan	As needed

designed to finalize exercise organization and staffing, scheduling documentation, control, evaluation, logistics, and administration. During this conference, the assembled representatives may also rehearse the discussion-based exercise to ensure that the personnel responsible for managing the exercise are comfortable with their roles.

DESIGN AND DEVELOPMENT

Several key elements must be developed by the exercise planning leader, the exercise planning team, any consultants, and any members of ad hoc committees established with local responders who will participate in the exercise. The key elements that will guide the exercise and enable the creation of the materials are the following:

- **Exercise Scope:** Identifies the specific functions to be demonstrated during the exercise and establishes the extent of organization and personnel participation.

Tabletop exercises typically include players, observers, and facilitators.

- **Participant List:** Identifies who will be participating in the exercise. At the tabletop, attendees will typically have one of three roles:
  - **Players:** Respond to the situation presented using expert knowledge of response procedures in place in their community or agency and insights derived from training. Players will be seated

at various functional group discussion tables. Players are encouraged to move among the tables periodically to share information and communicate between agencies.

- **Observers:** Support the functional groups as they develop responses to the situation in the caucus sessions. Observers are free to migrate among any of the tables during the discussion period in order to observe responses or to lend particular expertise. However, they do not participate in the moderated discussion period.

- **Facilitators:** Provide situation updates and moderate discussions. They also provide additional information or resolve questions, as required. Facilitators do not evaluate or direct your response. Participants from both the transportation agency and responder agencies may also assist with facilitation as subject matter experts during the tabletop exercise.

- **Exercise Objectives:** Identify the stated goals of exercise activities (i.e., the desired end results that participants should achieve with respect to the problem being exercised). Exercise objectives focus on improving an understanding of a response concept, identifying opportunities or problems, and/or achieving a change in attitude. Process and decision making are more important than minor details. Emphasis is on coordination, integration of capabilities, problem identification, and resolution. **Attachment 4** lists possible objectives for use in transportation exercises.

- **Exercise Scenario:** Provides a sequential account of a hypothetical situation or a chain of events that depicts an incident, emergency, or crisis and all the associated consequences used to frame and guide simulation during an exercise.

Attachment 5 provides a sample set of materials to support exercise development and evaluation.

Documentation required for tabletops includes multimedia presentations and situation manuals, sometimes called player's handbooks. Sample materials can be found online at http://trb.org/news/blurb_detail.asp?id=6007.

Documentation

Once the design and development activities have been completed and discussed during the IPC, then the exercise planning team must prepare at least two sets of materials to support the tabletop:

- Multimedia presentations and

- A situation manual (SITMAN, sometimes called a player's handbook).

Multimedia presentations include PowerPoint presentations, photographs, maps, video clips, and other materials designed to enhance the reality of the tabletop. These presentations are organized into modules that support the tabletop.

For example, the presentations may begin with an introduction to the tabletop (PowerPoint presentation), followed by a brief video on the threat to be addressed in the scenario (e.g., flooding in a major urban area or a sarin gas release in a subway system). Then, a PowerPoint presentation may be given on the tabletop objectives and the exercise rules.

Next, to support each interval of the scenario, materials such as the following may be used: maps; videotapes documenting the dispersal of a chemical agent or smoke in a facility; a recording of a 911 call; PowerPoint presentations documenting injuries resulting from accidents, explosions, or symptomology demonstrating exposure to chemical or biological agents; pictures of equipment used to clear debris from roadways; and pictures of control centers, media briefing stations, press conferences, and temporary traffic control strategies. In this manner, information can be effectively conveyed to support the tabletop and, in some instances, educate the participants on specific elements of response in the transportation environment (e.g., on ways to access vehicles, hazards, and activities to be performed).

The SITMAN is a participant handbook for discussion-based exercises. It is particularly effective for tabletops because it provides background information on the exercise scope, schedule, and objectives.

It also presents the scenario narrative that will drive participant discussions during the exercise. The SITMAN should mirror the briefings provided during the tabletop, support the scenario narrative, and allow participants to read along while watching events unfold.

A sample SITMAN prepared by the American Red Cross is available at http://www.tallytown.com/redcross/SmallpoxTabletopExercise.pdf.

A SITMAN template prepared by FEMA is available at http://training.fema.gov/emiweb/downloads/EXERCISE%20PLAYER%20HANDBOOK.doc.

The G&T Secure Portal contains samples and templates for multimedia presentations and SITMANs for a variety of terrorism-related scenarios. Descriptions of these materials and how they can be used for tabletops are available in HSEEP Volume IV at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

A sample table of contents for a SITMAN appears in Figure 7.

I.	Introduction
II.	Schedule of Events
III.	Purpose and Scope
IV.	Design Objectives
V.	Exercise Structure (Modules or Phases of Activity)
VI.	Instructions for Exercise Conduct
VII.	Roles and Responsibilities for Facilitators, Participants, and Observers
VIII.	Assumptions and Artificialities
IX.	Exercise Rules
X.	Information Necessary to Support the Discussion-Based Exercise
XI.	Scenario
XII.	Issues for Consideration (Key Questions to Be Discussed During the Exercise)
XIII.	Referenced Appendices

FIGURE 7 SITUATION MANUAL TABLE OF CONTENTS

LOGISTICS

Critical to ensuring the success of the tabletop is providing an appropriate space for the exercise, ensuring that all participants can see and hear multimedia presentations and can work together effectively to address questions and issues covered in the tabletop. Issues to be considered include the following:

- Room layouts;
- Beverages, snacks, or working lunch;

- Badges;
- Name tents and table tents;
- Invitation packages;
- Rules of conduct signs;
- Sign-in sheets; and
- Participant feedback forms.

The G&T Secure Portal contains sample room layouts, invitation packages, sign-in sheets, and participant feedback forms. HSEEP Volume IV describes these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Media Policy

Transportation agencies, perhaps more than their partners in public safety and emergency management agencies, have a long history of including media representatives in tabletop exercises.

Members of the media can support the transportation progressive exercise program. Not only can they inform the public that an exercise is taking place, but they can also make the public aware that the transportation agencies and public safety community are preparing for disasters and terrorism.

Most experienced exercise planners in the transportation community recommend close coordination with the media. Many agencies even include media representatives as participants in tabletop exercises, since their activities and perspectives will help ensure that transportation service changes and delays are broadcasted in a timely and accurate manner and that, in the event of a major incident on the transportation system, the emergency response and investigation are broadcasted. Media participation builds trust and understanding and provides additional working contacts. In addition, members of the media may learn more about what is involved in responding to an emergency in the transportation environment.

Of course, if the media participates, an agreement needs to be established with the participating media representatives that they are there as participants and are not to report on the specific event. The exercise planning team should discuss possible media involvement with all participating agencies and determine if any elements of the tabletop are considered too sensitive for media involvement. If so, certain restrictions can be placed on media participation.

Whether the media participates in the tabletop or not, the transportation agency should develop a written news release to be disseminated to media outlets. This release should inform the media and the public about the tabletop exercise. Additionally, the news release can be distributed to VIPs and other observers as further evidence of the transportation agency's commitment to its exercise program.

The news release may include the following information:

- Introduction to exercise,
- Identification of the sponsoring transportation agency,
- Brief overview of the transportation agency's progressive exercise program,
- Exercise purpose and expected outcomes,
- Exercise scope and duration,
- General scenario information (e.g., location, goals, and objectives), and
- List of participating agencies.

To address media coverage of the event, some transportation agencies encourage key participants to give interviews with the media at the conclusion of the tabletop. Arrangements for video footage from a portion of the tabletop can also be provided, allowing the media to shoot images of the tabletop exercise as it begins prior to any significant discussion.

The G&T Secure Portal contains sample news releases for tabletop exercises. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Evaluation

Evaluation is a critical element of the tabletop exercise. Previous assessments conducted for FTA have identified evaluation as one of the most challenging elements of emergency exercises for transportation agencies.

Evaluation is the final cycle in the exercise process. The FTA recently assessed results received from 82 exercises that were conducted by public transportation agencies and that were funded by a special grant program. These results showed that evaluation was the most difficult part of the exercise process for many transit operators. This occurred primarily because insufficient attention was paid to the development of exercise objectives and the creation of evaluation metrics to support assessment of the transit system's performance.[5]

Evaluation during discussion-based exercises, particularly for tabletops, typically requires the following activities:

- **Hot Wash and After Action Review:** A "hot wash" is an informal debriefing session, immediately following the exercise, between tabletop players and members of the exercise planning team, in which players discuss their reactions to and observations of the exercise. The after action review is a formal, evaluative debriefing session among the planning team members only. Both sessions provide the key issues and findings for the data analysis required to prepare the after action report.

- **After Action Analysis and Report:** The after action report (AAR) is the key postexercise document developed by the exercise planning team, in partnership with transportation agency departments and key participants. It provides a historical record of findings and forms the basis for refinements to plans, policies, procedures, training, equipment, and overall preparedness. To prepare the report, the exercise planning team will analyze information gathered during the exercise, from the after action review, and from other sources (e.g., plans and procedures) to compare the actual results of the response with the intended outcome. Input will also be sought from observers who served as technical subject matter experts. AARs describe the exercise scenario, player activities, preliminary observations, major issues, and recommendations for improvements. Sample AARs can be viewed at the following websites:

  - http://38.232.74.112/CAL_SONS_04.nsf/resources/CAL/$File/CALSONSTTEXAfterActionReport.pdf.

  - http://www.au.af.mil/au/awc/awcgate/doj/sample_aar.pdf.

  - The G&T Secure Portal contains samples of AARs for tabletop exercises. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

- **Improvement Plan:** The improvement plan is a matrix prepared by the transportation agency to address the findings and recommendations identified in the exercise and documented in the AAR. It should provide a description of the actions that will be taken, the timeline for implementation,

[5] *Development of Guidelines for Planning, Conducting, and Evaluating Transit Emergency Operations Exercises: Task #2: Compendium of Drill Practice.* Federal Transit Administration (Washington, DC), March 4, 2004, pg. 25.

and the person or department with lead responsibility. The improvement plan should be a dynamic improvement program that is continually updated and revised. A sample matrix is available from FEMA at http://training.fema.gov/emiweb/downloads/CorrectiveActionform.doc.

Call-Off Procedures

Sometimes, an exercise becomes ineffective for the players. That means that through an unforeseen circumstance, the exercise fails to be effective or ceases to be effective in its ability to meet the objectives.

In any exercise, discussion-based or operations-based, an exercise that is becoming ineffective should be considered for suspension or cancellation. It is not appropriate to call off an exercise for the convenience of evaluators or controllers. It is appropriate, however, if exercise players can no longer contribute to the exercise as it was designed.

An appropriate call-off procedure should be designated before the conduct of any exercise. It is a good idea in a tabletop to make those decisions at normal break opportunities or before introducing another message from the scenario being played out.

Controllers and evaluators should always be cognizant of safety issues that may present themselves during any exercise. If the safety of participants or bystanders is in any way compromised, it is the responsibility of those conducting the exercise to suspend or terminate the exercise. Appropriate attention to that call-off procedure should be part of any safety plan in any operations-based exercise.

5.0 Operations-Based Exercise Planning Process

This section provides a brief overview of the exercise planning process for operations-based exercise and includes a description of common exercise planning events, exercise documents, and timelines. A generic exercise cycle is depicted in Figure 8.

Exercise Planning Team

Depending on the number of participating agencies, exercise planning teams for operations-based exercises can require 10 to 20 people.

The exercise planning team for operations-based exercises should include representatives from each participating agency or functional area as well as from all necessary logistical support areas. Because input is needed from all of these disciplines, the exercise planning team will be larger than the one needed for a discussion-based exercise. In the transportation environment, exercise planning teams for full-scale exercises can range from 10 to 20 people.

For operations-based exercises, the size of the group required to develop and manage the exercise is directly proportional to the complexity of the event being designed. For example, for a full-scale exercise, the planning and development may be done by organizing core transportation personnel and the supporting working group members into functional committees, as depicted in Figure 9.

Within this sample structure, the management or executive planning committee may

- Develop or manage the exercise master schedule,
- Develop the scope,
- Identify objectives for the organizational exercise,
- Identify limitations,
- Develop guidelines to direct the preparation of exercise materials,
- Approve simulations,
- Develop a public information plan,
- Ensure quality control,
- Invite VIPs and evaluators,
- Ensure compliance with grant programs,
- Approve exercise packages, and
- Approve exercise evaluation reports.

The scenario committee may

- Develop the scenario narrative,
- Develop the timeline of key scenario events, and
- Develop the message injects.

The exercise control committee may

- Identify the control organization,
- Staff and train the control organization,

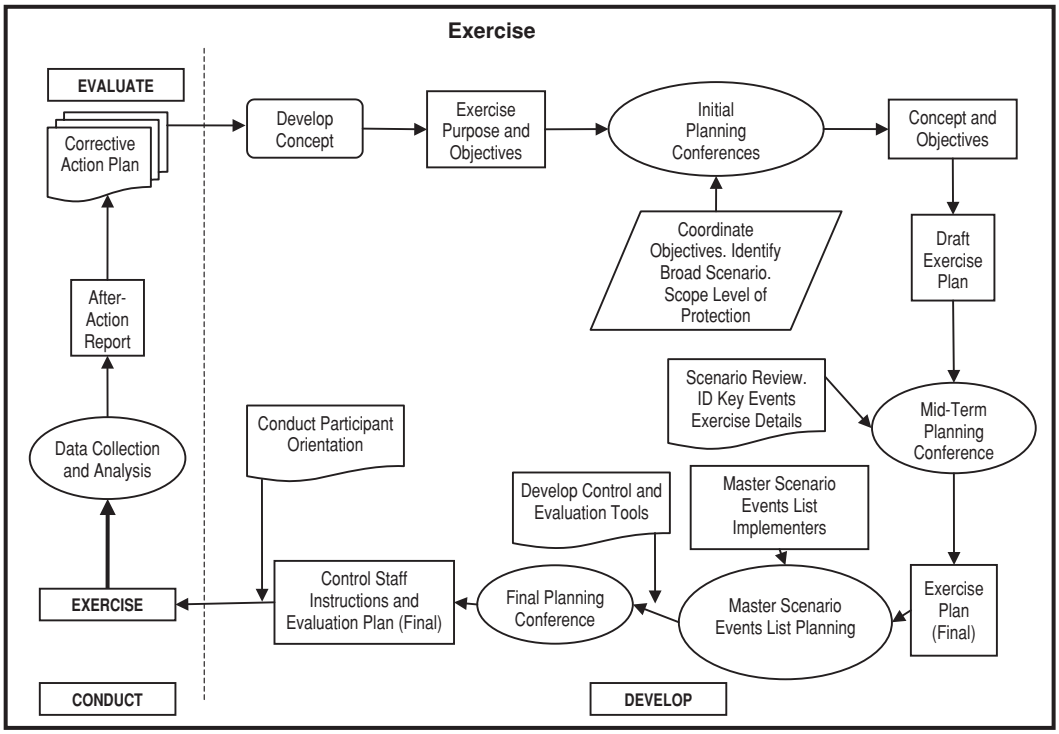

FIGURE 8 GENERIC PROCESS FOR OPERATIONS-BASED EXERCISES

FIGURE 9 POTENTIAL ORGANIZATION STRUCTURE FOR FULL-SCALE EXERCISE

- Develop the safety plan,
- Develop the security plan,
- Develop control communication requirements, and
- Identify simulation and prop requirements.

The exercise evaluation committee may

- Identify the evaluation organization;
- Staff and train the evaluation organization;
- Develop evaluator tools, such as evaluator modules;
- Set standards for rating performance; and
- Develop the exercise evaluation report.

The administration and logistics committee may

- Set and manage exercise format and software;
- Maintain exercise document control;
- Develop and implement the VIP/observer control plan;
- Collect, document, and report expenditures;
- Schedule meeting and training facilities;
- Procure communications and simulation props and equipment;
- Identify and reserve hotel rooms and transportation for participants when required;
- Develop and implement event scene set-up and postevent cleanup; and
- Procure meals and water as required.

Exercise planning timelines organize the activities necessary to complete the exercise.

Exercise Planning Timelines

Operations-based exercises require a much more detailed and organized planning process than discussion-based exercises in order to ensure a high-quality product. A timeline that identifies key planning meeting dates, milestones, and critical tasks should be established by the exercise planning team. A sample timeline for a full-scale exercise appears in Table 8.

Exercise Participants

Operations-based exercises have the following types of participants:

- **Players:** Individuals who actively participate in an exercise role by performing their regular roles and functions in response to the situations presented.
- **Controllers:** Individuals who ensure that objectives are sufficiently met to permit a valid evaluation, that the level of activity is sufficient to keep players occupied and challenged, and that the progress of the exercise is in accordance with the scenario. Controllers provide key data to players and may prompt or initiate certain player actions to ensure exercise continuity. Controllers are the only non-players who will provide information or direction to the players.
- **Chief Controller:** The individual responsible for the preparation of the control staff instructions and for coordination and oversight of the exercise control group, lead controllers, and all individual controllers.

TABLE 8 FULL-SCALE EXERCISE ACTIVITY

Full-Scale Exercise Activity	Time Before and After Exercise (E) Day
Develop Concept and Select Proposed Date of Full-Scale Exercise	E–365 days
Coordinate Date of Initial Planning Conference	E–365 days
Prepare and Mail Initial Planning Conference Read-Ahead	E–350 days
Prepare Initial Planning Conference Brief	E–340 days
Conduct Initial Planning Conference	E–330 days
Distribute Concept and Objective Paper to Planning Team	E–320 days
Distribute Draft Exercise Plan to Participants	E–240 days
Review Plan and Material for Mid-Term Planning Conference	E–200 days
Conduct Mid-Term Planning Conference	E–180 days
Prepare and Approve Mid-Term Planning Conference Minutes	E–160 days
Review Draft Master Scenario Events List, Control and Evaluation Plan, Exercise Timeline, and Support Requirement Status	E–120 days
Disseminate Final Exercise Plan to Planning Team	E–90 days
Make Final Preparations for Final Planning Conference	E–65 days
Conduct Final Planning Conference	E–60 days
Prepare and Approve Final Planning Conference Minutes	E–53 days
Finalize Master Scenario Events List and Implementers	E–45 days
Publish Final Review of Controller/Evaluator Handbook	E–30 days
Publish Controller/Evaluator Handbook	E–25 days
Finalize Pre-Exercise Briefings	E–7 days
Conduct Pre-Exercise On-Site Activities	E–1 day
Conduct Full-Scale Exercise	E day
Collect and Analyze Data (Participant, Observer, Evaluator)	E+30 days
Forward Draft After Action Report for Participant Review	E+52 days
Receive Participant Comments on After Action Report	E+90 days
Distribute Final After Action Report to Participants	E+120 days
Develop Improvement Plan	E+150 days
Implement Improvement Plan	As needed

- **Lead Controller:** The individual designated to coordinate controller activities at a specific exercise location.
- **Evaluators:** Unbiased technical and functional experts tasked to document responder performance and the adequacy of facilities and equipment against established crisis and consequence management plans and exercise objectives. An evaluator is assigned to one or more exercise functions or locations to document and evaluate individual, team, and organizational performance based on exercise objectives and performance criteria. Evaluators provide both positive and negative feedback on how player performance supports the objectives. Evaluation has the aim of improving future efforts through recommendations arising from the exercise; its aim is not to judge.
- **Chief Evaluator:** The individual responsible for preparation of the evaluation plan, management of the overall evaluation or observation process, oversight of the evaluation team, and compilation of evaluation data for incorporation in an evaluation report.
- **Lead Evaluator:** The individual charged with supervising a group of evaluators at a given exercise site.

- **Simulators:** Control staff personnel who simulate nonparticipating organizations or key nonparticipating individuals. Simulators may come in face-to-face contact with players or perform their functions from a simulation cell (SIMCELL). They also may function semi-independently (e.g., as the mayor, media reporters, next-of-kin, or perpetrators).

- **Actors:** The volunteers who pretend to be victims of the emergency event. For realism, they may wear makeup and "act" injured, unconscious, hysterical, or dead, whatever is called for at the scene.

- **Safety Officer:** The person whose primary responsibility is to analyze the entire exercise from a safety perspective in both planning and operational roles.

Exercise Planning Conferences

Operations-based exercises can have three to six planning conferences, depending on their complexity and the number of participating agencies.

Operations-based exercises are typically planned using a minimum of three conferences:

- Initial planning conference (IPC);
- Mid-term planning conference (MPC); and
- Final planning conference (FPC).

Because a large amount of information is needed to organize an operations-based exercise, other conferences are also recommended, including a concept and objectives meeting and a master scenario events list conference (MSEL). A brief description is provided for each type of planning conferences in the typical chronological order in which they would be held.

Concept and Objectives (C&O) Meeting: Used to identify the type, scope, objectives, and purpose of the exercise. This meeting is typically run by the lead exercise planner and attended by the transportation agency and senior officials from participating agencies. This meeting formally begins the exercise planning process. Specifically, the exercise planning team and other attendees agree on the exercise scope, determine an exercise location, define the overall objectives, determine the major participants, and select a date for the IPC.

Exercise concept development is usually based on the transportation agency's stated purpose in conducting the exercise, prior experience, operations, and historical precedence. Exercise objectives are used to establish the scope, specify the functions to be demonstrated, identify the extent of organization/personnel participation, and identify the breadth and depth of activities to be accomplished or simulated. Participants in the meeting submit views on the proposed exercise concept, scenario, proposed objectives, recommended levels of participation, draft exercise responsibilities, potential planning milestones, and (if applicable) recommended changes to the host agency's scenario to ensure that submitting agency interests are adequately reflected. The exercise concept guides the preparation of exercise documents developed in subsequent exercise planning meetings.

A C&O paper is prepared for dissemination to the exercise planning community and senior representatives of participating departments, agencies, jurisdictions and organizations. The C&O provides a synopsis of the IPC results and agreements and addresses the following:

- Exercise dates,
- Exercise purpose and type,
- Overall concept,
- Major exercise objectives,

- Exercise duration,
- Assumptions and artificialities, and
- Expected participant list.

Initial Planning Conference: As for discussion-based exercises, the IPC provides a forum to obtain the planning team's input on exercise location, schedule, duration, and other details required to develop exercise documentation. Planning team members should be assigned responsibility for the tasks outlined in the meeting. The foundation of the IPC is the exercise sponsor's proposed concept and overarching objectives, and the goal is to reach consensus on the exercise concept, objectives, scope, and broad scenario so that exercise design and development can proceed. This consensus will provide the basis for the exercise planning team to:

- Refine draft exercise objectives and the scenario,
- Identify exercise assumptions,
- Confirm exercise dates,
- Coordinate levels of participation in the exercise,
- Disseminate current and specific planning guidance to exercise planners,
- Inform planners to provide their portions of the draft exercise plan,
- Finalize the C&O paper, and
- Prepare a draft exercise plan.

Mid-Term Planning Conference (MPC): The MPC presents an additional opportunity in the planning timeline to settle logistical and organizational issues that arise during planning, such as staffing concepts, scenario and timeline development, scheduling, logistics, administrative requirements, and reviewing draft documentation.

A Master Scenario Events List (MSEL) Conference: MSEL conferences are conducted for exercises with significant simulated and scripted play, typically functional and full-scale exercises. The MSEL provides the script (or list of events) that both guides the unfolding of the scenario and identifies the anticipated responses of the players. The MSEL offers a synopsis of key events and expected responses. During the exercise, it is used to generate activity in specific functional areas to drive demonstration of objectives. There are generally two MSEL conferences scheduled, and they can be held in conjunction with the MPC and FPC or as separate events.

The first conference focuses on the development of the MSEL and ensures that exercise planners from participating departments, agencies, jurisdictions, and organizations have identified activities that must occur during the exercise to enable achievement of exercise objectives. Exercise planners also define "injects" to stimulate players to perform tasks that address exercise objectives and coordinate event times in keeping with proposed scenario and expected responses. The result of the first conference is a chronological listing of exercise events and publication of the key event list.

The ability to ensure that events occur, and to ensure that controllers are able to manage exercise flow, requires that certain information be injected into the exercise; this is accomplished through MSEL implementers. An implementer is the vehicle that places an MSEL item into exercise play. The second con-

ference typically is conducted to ensure that MSEL implementers developed by the exercise planners do the following (after which time the final MSEL is published):

- Reflect the intent of the event as described in the MSEL items,
- Accomplish intended results,
- Include the correct action and information addressees, and
- Provide a time sequence consistent with the flow of other exercise events.

Objectives are perhaps the most important element of the exercise planning process. Subsequent evaluations and recommended improvements will be based on them.

Final Planning Conference: A forum to review the processes and procedures for conducting the exercise, final drafts of all exercise materials, and all logistical requirements. There should be no major changes made either to the design or scope of the exercise or to any supporting documentation.

Sample agendas and other materials for supporting the planning conferences for operations-based exercises are available on the G&T Secure Portal. HSEEP Volume IV describes these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

A sample IPC package is available from the United States Marine Corps at http://www.certip.org/policies/6-14meeting.html.

The Alaska Department of Homeland Security has prepared an extensive guide for the development of both discussion-based and operations-based exercises. This guide provides useful tips and recommendations for organizing and conducting planning conferences. The guide supports compliance with the G&T HSEEP and is available at http://www.ak-prepared.com/homelandsecurity/exercise/full-scale/documents/ODP%20DesksideVol%20I.doc.

Design and Development

Building on the exercise foundation, the design and development process should focus on identifying objectives, designing the scenario, creating documentation, developing policies, planning exercise conduct, and selecting an evaluation methodology.

Objectives

Exercise objectives are the foundation of design and development. Exercise objectives define specific goals, provide a framework for the development of the scenario, guide development of individual organizational objectives, and provide evaluation focus for the exercise. Generally, the number of exercise objectives will be limited by planners to

- Enable timely execution of the exercise,
- Facilitate design of a reasonable scenario, and
- Adequately support the successful completion of exercise goals.

Objectives are initially prepared during concept development. More complex exercises typically have both major and supporting objectives. A major objective contributes to development of general events to present to participants for action. Supporting objectives help planners to ensure that all participants receive an adequate opportunity to assess specific capabilities.

The performance addressed by the objective should have observable and measurable indicators to aid in identifying evaluation criteria. FEMA's SMART System, shown as Figure 10, is a good checklist for ensuring the completeness and accuracy of objectives.

Simple	A good objective is simply and clearly phrased. It is brief and easy to understand.
Measurable	The objective sets the level of performance so that results are observable and you can tell when an objective has been reached.
Achievable	The objective is not too tough to achieve. It is reasonable in its commitment of resources.
Realistic	An objective is not only achievable, but also realistic for the exercise.
Task Oriented	The objective focuses on a behavior or a procedure. With respect to exercise design, each objective should focus on an individual emergency function.

FIGURE 10 SMART SYSTEM CHECKLIST

Many examples of scenarios are available. Transportation agencies should check with their local public safety and emergency management agencies for templates and examples tailored to their local communities.

SCENARIO

A scenario provides the backdrop and storyline that drive an exercise. The first step in designing the scenario is determining the type of threat/hazard (e.g., chemical, biological, radiological, nuclear, explosive, cyber, or other). Thought should be given to creating a scenario that involves local incidents and local facilities and is based on exercise objectives derived from risk and vulnerability assessments conducted at the transportation agency. Each type of hazard presents its own strengths and weaknesses for evaluating different aspects of prevention, response, and recovery and is applicable to different exercise objectives.

The next step is to determine the venue (i.e., the facility or site) that the scenario will affect. Venue selection should be based on the type of hazard used. For example, if a nonpersistent chemical agent (e.g., sarin) is selected, the venue should not be an open-air facility (e.g., outdoor station) because of the agent's dissipating characteristics. Table 9 provides information on the characteristics of a good scenario.

The Wisconsin Department of Emergency Management has released a set of 39 scenarios for use by local responders. This document provides an overview to Wisconsin's recommended program for

TABLE 9 WHAT DOES A GOOD SCENARIO LOOK LIKE?

Characteristic	Description
Appropriate	The scenario must fit the ☐ Exercise objectives (for both the transportation organization and participating external agencies) ☐ Targeted incident location, in terms of geography and logical functioning of the location during transportation operations ☐ Emergency response organization's makeup and capabilities
Realistic	The scenario must be plausible in terms of ☐ Design-basis coherence ☐ Threat and vulnerability assessment performed by the transportation agency ☐ Credible conditions and environmental challenges
Robust	The scenario must be broad enough to ☐ Support all the envisioned exercise activities ☐ Provide the opportunity for all organizations to meet their objectives
Engaging	The scenario must ☐ Move participants to act with a high degree of involvement ☐ Be challenging and raise responders' adrenaline level

conducting tabletops. It is available at http://emergencymanagement.wi.gov/docview.asp?docid=738&locid=%2018.

The Environmental Protection Agency has also made available a set of scenarios simulating radiological emergencies involving nuclear power plants, Department of Energy weapons and waste storage facilities, and military sites. These materials can be found at http://www.epa.gov/radiation/rert/exercises.htm.

Michigan State University also offers a resource page to support the development of terrorism-based scenarios at http://www.cj.msu.edu/~outreach/wmd/moduleresources.htm.

Sample scenarios are also available to support operations-based exercises on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Documentation

The exercise plan resembles the situation manual in how it is applied during an operations-based exercise.

The list below briefly describes typical products for operations-based exercises. Documentation materials such as meeting minutes, presentations, agendas, and news releases have been omitted because these documents typically are created while developing the primary products.

The exercise plan (EXPLAN), typically used for operations-based exercises, provides an exercise synopsis and is published and distributed prior to the start of the exercise. In addition to addressing exercise objectives and scope, the EXPLAN assigns tasks and responsibilities for successful exercise execution. The EXPLAN should not contain detailed scenario information, such as the hazard to be employed. This document is generally intended for exercise players and observers.

A sample exercise plan template is available from FEMA at http://training.fema.gov/emiweb/downloads/EXERCISE%20%20PLAN1.doc.

Sample exercise plans to support a variety of operations-based exercises are available on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

The controller and evaluator (C/E) handbook supplements the EXPLAN, containing more detailed information about the exercise scenario and describing exercise controllers' and evaluators' roles and responsibilities. Because the C/E handbook contains information on the scenario and exercise administration, it should be distributed only to individuals specifically designated as controllers or evaluators. The C/E handbook is generally used on smaller or limited-scope exercises of short duration in lieu of control staff instructions (COSIN) and an EVALPLAN. Its specifics may include the following:

- Roles and responsibilities of functional or individual controllers;
- Evaluation aids and checklists;
- A schedule for training, site set-up, exercise conduct, and critiques;
- An exercise safety plan; and
- A controller communications plan.

Larger, more complex exercises may use COSIN and an EVALPLAN in place of, or in addition to, the C/E handbook. A sample C/E handbook to support a variety of operations-based exercises is available on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Controllers and evaluators need handbooks and instructions to direct their activities during an operations-based exercise.

Control staff instructions (COSIN) contain the guidance that exercise controllers, simulators, and evaluators need concerning procedures and responsibilities for exercise control, simulation, and support. The purpose of COSIN is to detail the scenario for the duration of the exercise, develop guidelines for control and simulation support of the exercise, explain the exercise concept as it relates to controllers and simulators; and establish and define the control structures, communications, logistics, and administration. Its level of detail will vary and can include the following:

- Exercise overview,
- Exercise control organization and scheme,
- Controller roles and responsibilities,
- Control communications plan,
- VIP/observer management plan,
- List of key exercise events,
- Short MSEL and long MSEL, and
- Exercise safety plan.

A template for a COSIN plan is available from FEMA at http://training.fema.gov/emiweb/downloads/CONPLAN1.DOC.

Sample COSIN to support a variety of operations-based exercises are available on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

The master scenario events list (MSEL) is a chronological timeline of expected actions and scripted events to be injected into exercise play by controllers to generate or prompt player activity. Preparing the MSEL is probably the most complicated activity required for operations-based exercises. However, this activity enables the exercise planning team to identify expected actions and to document when and how the actions should be performed, based on existing plans, procedures, and training. Use of an MSEL ensures that necessary events happen so that all objectives are met. An MSEL contains a chronological list of the events that drive exercise play. The MSEL links simulation to action, enhances the exercise experience for players, and reflects an incident or activity that will prompt players to implement the policy or procedure being tested. A sample MSEL format is presented in Table 10.

In accordance with the recommendations in Table 7, each MSEL record identifies the

- Designated scenario time;
- Event synopsis;
- Controller responsible for delivering inject, with C/E special instructions (if applicable);
- Expected action (i.e., the player response expected after an MSEL inject is delivered);
- Intended player (i.e., the agency or individual player for whom the MSEL inject is intended);
- Objective to be demonstrated (if applicable); and
- Notes (for controllers and evaluators to track actual events against those listed in the MSEL, with special instructions for individual controllers and evaluators).

TABLE 10 MSEL SAMPLE FORMAT

Time (in minutes)	Message No.	Message Summary	Expected Response
-90	1	From senior controller to transportation supervisor: Permission to open exercise window.	Exercise window is opened.
-60	2	From senior controller to lead safety and security controllers: Implement security and safety plans.	Event scene is isolated, and safety and security controllers begin to make final check of simulations.
-10	3	From senior controller to all evaluators and controllers: Communication check and time check.	Equipment is checked and time is noted.
00	4	From senior controller to event scene safety controller: Start smoke generator.	Exercise start: • Fire department receives fire alarm. • Fire department receives 911 call. • Transportation control center and medical department monitor 911 call.
	5	From senior controller to event scene lead controller: Sound fire alarm.	
	6	From senior controller to employee actor #1: Make 911 call "This is an exercise. We have just had an explosion at the store's loading dock. The fire alarm is sounding. I see at least three injured persons. This is an exercise."	

Times listed in an MSEL should reflect the time at which an inject should occur. These times should be as realistic as possible and should be based on input from functional area representatives. For example, to determine when triage and treatment should be established during the exercise, solicit input from emergency medical services (EMS) or a hospital representative. If the activity occurs sooner than anticipated, the time should be noted but play should not be interrupted.

There are three types of injects:

- **Contextual injects** are introduced to a player by a controller to help build the contemporary operating environment. For example, if the exercise objectives include information sharing, an MSEL inject can be developed to direct a controller to select an actor to portray a suspect. The inject could then instruct the controller to prompt another actor to approach a law enforcement officer and inform him or her that this person was behaving suspiciously.

- **Expected action events** are expected actions that would normally take place during this type of incident. For example, during an FSE involving a chemical agent, establishment of decontamination is an expected action.

- **Contingency injects** are events that should be verbally indicated to a player by a controller if the player does not discover them. For example, if a simulated secondary device is placed at an incident scene but is not discovered, a controller may want to prompt an actor to approach a player and say that he or she witnessed suspicious activity close to the device location. This should prompt the discovery of the device by the player and result in subsequent notification of law enforcement (specifically, the bomb squad).

MSELs are typically produced in two formats: short and long. Short MSELs list the inject, the time, a short description, the responsible controller, and a player. These MSELs can be used as a quick

reference guide during exercise play. Long MSELs are used when greater detail is necessary. They include more detailed descriptions, exact quotes for injects by simulation cells (i.e., by groups acting out an element of the exercise, or SIMCELL), and descriptions of expected actions.

Message injects are typically used in exercises that involve multiple simulated activities. These messages are typically delivered via a SIMCELL and are used to simulate the actions, activities, and conversations of an individual, agency, or organization that is not participating in the exercise but that would likely be actively involved during a real event. For example, in an exercise with limited scope, the state governor's office may not be playing. To simulate the activities of the governor's office during an emergency event, a message can be scripted to simulate notification of the mayor by the governor. That message can be delivered by phone through the SIMCELL. This script or message inject should be read by a simulator acting on behalf of the governor's office.

The Department of Energy's Oak Ridge National Laboratory offers an extensive online training program for developing scenarios and MSELs. These materials, which include interactive forms and tables, can be accessed at http://www.orau.gov/emi/wbt/default.htm. As with the G&T Secure Portal, users must register to access these resources. Additional information on this registration process can be obtained by calling Oak Ridge at (865) 576-2007.

Sample MSELs, supporting scenarios, and evaluation measures are also available on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Evaluation plans (EVALPLANs) provide evaluation staff with guidance and instructions on evaluation or observation methodology to be used as well as essential materials required to execute their specific functions. The EVALPLAN is a limited distribution document that evaluators use in conjunction with the EXPLAN and the MSEL. Level of detail varies and can include the following:

- Exercise overview,
- Evaluation control organization,
- Evaluation methodology and observation techniques,
- Evaluator roles and responsibilities, and
- Evaluation communications plan.

FEMA provides guidelines for the selection of evaluation methodologies at http://training.fema.gov/emiweb/downloads/HMEEM%20R-VI%20UPDATE%20JULY%202000.DOC.

FEMA provides a sample EVELPLAN that takes the user through all steps of the process. It is available at http://training.fema.gov/emiweb/downloads/evalplan.doc.

- Sample evaluation plans to support a variety of operations-based exercises are available on the G&T Secure Portal. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

POLICIES

Exercise policies are developed to provide guidance or parameters of acceptable practices for designing, developing, conducting, and evaluating exercises. Policies are designed to prevent, or at least mitigate the impact of, an action that may cause bodily harm to participants, destruction of property, or embarrassment to the participants or affected community. State and local transportation agen-

cies should develop policies appropriate to the type of exercise that address safety, media, cancellation, and weather.

A final activity that must occur during the development cycle is preparation of the protocols used to govern the exercise. Table 11 provides a sample list of protocols for responders, controllers, evaluators, and observers/VIPs.

TABLE 11 EXERCISE PROTOCOLS

Role	Rules
Responders	• Move participants to act with a high degree of involvement. • Monitor your actions. Ensure you keep yourself safe. • Follow all instructions from controllers unless the instructions place you in danger. • Verbalize your thought processes. The evaluators are not mind readers, and you want credit for what you have accomplished. • Speak loudly so evaluators can hear what you are saying. • If you have questions on what you are observing or information that was provided, ask the controller. Evaluators are directed not to speak to you. • Always state "This is an exercise" when making radio and telephone calls. • If nonresponders get in your way, tell the controller. • Participate in the postexercise critique. • Ensure that you sign in so that you get credit for your participation.
Controllers	• Ensure exercise safety—this is your primary duty. • Do not give clues to responders. For example, "Who did you notify?" is a better question than "Did you notify the state?" The latter question tells the responder that the state has to be notified. • Be responsible for suspending, restarting, and terminating. Follow the instructions from the senior controller. • Inform the evaluator when you issue a contingency message. • Ensure that all responders sign in to get credit for their participation in the exercise. • Facilitate the responder critique immediately after the exercise. You may explain why things happened or the responder expectations, but do not comment on performance.
Evaluators	• Assist the controllers with monitoring safety. • Position yourself to observe and hear the responders' performance, but do not get in the responders' way. • If you have a question for responders, go through the controller. • Keep your timeline of observed performance during the exercise; evaluation of performance happens after the exercise. • Evaluate performance against the responder's plans and procedures, not what you believe the plans and procedures should be. • Attend the postexercise critique. Take notes regarding what is said, and use the debrief to understand the rationale for why specific actions were performed. • Do not comment on performance during the critique.
Observers and VIPs	• Do not ask questions of responders, evaluators, or controllers. All questions will be addressed through your escort. • Stay out of the way of responders. • Remain quiet. Do not critique or prompt responder performance. • Keep a professional bearing. Remember that the first people to be kicked out due to space restrictions are the observers and VIPs. • When in doubt, ask your escort.

Conducting operations-based exercises is like producing theater. To create the final product of a stage play, there is both a script for actors and a supporting set of activities for the stage crew. In this analogy, existing plans, policies, and procedures (for the players) and the MSEL (for the controllers) serve as the script, and the message injects are like the supporting activities performed by the stage crew.

EXERCISE CONDUCT

After design and development tasks are complete, the exercise takes place. Exercise conduct details include set-up, presentations/briefings, facilitation/control/evaluation, and call-off procedures.

SET-UP

The planning team should visit the exercise site on the day prior to the exercise to set up the site. On the day of the exercise, planning team members should arrive several hours before the scheduled start time to handle any remaining logistical or administrative items pertaining to set-up and to arrange for registration.

Presentations/Briefings

Presentations and briefings are important tools for delivering information. As described in Section 4, a discussion-based exercise generally includes a multimedia presentation to present the scenario and accompany the SITMAN. An operations-based exercise may include briefings for controllers, evaluators, actors, players, and observers. A briefing and/or presentation is an opportune time to distribute exercise documentation, provide necessary instructions and administrative information, and answer any questions.

Facilitation/Control/Evaluation

In an operations-based exercise, controllers plan and manage exercise play, set up and operate the exercise incident site, and possibly take the roles of response individuals and agencies not actually participating in the exercise. Controllers give key data to players and may prompt or initiate certain player actions (as listed in the MSEL) to ensure that objectives are met and the exercise maintains continuity. Controllers are the only participants who should provide information or direction to the players. All controllers should be accountable to one senior controller. If conducting an exercise requires more controllers or evaluators than are available, a controller may serve as an evaluator; however, this dual role typically is discouraged.

Evaluators are selected from various agencies to evaluate and comment on designated functional areas of the exercise. Evaluators are chosen based on their expertise in the functional areas that they will review. Evaluators have a passive role in the exercise and only note the actions of players; they do not interfere with exercise flow. Evaluators should use exercise evaluation guides (EEGs) to record observations and notes.

Controllers support the exercise by both conducting functional activities (e.g., setting up a simulation smoke machine) and inserting scripted event messages into play in accordance with the exercise scenario. Typically, two types of messages are used in transportation exercises: action messages and control messages. Action messages provide event information to players during the exercise. These messages are usually scripted in the MSEL. Control messages enable controllers to keep the exercise on track and to address situations in which players did not meet specific objectives or took actions that were not anticipated in the MSEL. Specific uses of messages are presented in Table 12.

Call-Off Procedures

Controllers and evaluators should always be cognizant of safety issues that may present themselves during any exercise. If the safety of participants or bystanders is in any way compromised, it is the responsibility of those conducting the exercise to suspend or terminate the exercise. Appropriate attention to that call-off procedure should be part of any safety plan in any operations-based exercise.

Table 12 Action and Control Messages

Message Type	Uses
Action Messages	• Used to provide event information (e.g., 911-calls) • Used to provide earned information (e.g., description of damage when a reentry team enters a building) • Used to request information from responders (e.g., news requests via telephone)
Control Messages	• Used to start, suspend, and terminate the exercise • Used to force responder actions where expectations are not met • Used to insert time-sequenced data (e.g., change in predetermined weather conditions) • Used to start and end simulations (e.g., turning smoke generators on and off) • Used to provide instructions to controllers (e.g., remind responders to state "this is an exercise")

There is no standardized format for messages in transportation exercises. Messages may contain any combination of the following:

- Message item: Indicates the content or characteristic of the message.
- Message number: Indicates the message in the MSEL.
- From line: Indicates who issues the message.
- To line: Indicates the recipient(s) of the message.
- Time: Indicates the expected time at which the message will be issued.
- Method of delivery: Indicates how the information will be delivered.
- Subject line: Summarizes the message. This is often the exact wording in the MSEL.
- "This is an exercise": Notifies readers that the message is for an exercise. This statement is located before and after the message text.
- Special instructions: Inform the person delivering the message of the special conditions for issuing the message.
- Script or instructions: Provides information to responders based on the MSEL.
- Instructions to controller or actor: Indicates activities to start and end simulations, provides attached data forms, or changes simulated conditions.
- Note area: Provides space for controllers to note responder performance.
- Time of message delivery: Indicates when the message was delivered.

Controllers are in a unique position to view exercise play, grasp the dynamics of an action or activity as it unfolds, and comment on what they observe. Controllers should have extensive emergency preparedness experience, and they should have participated previously in tabletops, drills, and other exercises so that they know what to expect in the way of behavior and response. In addition, they should have observed exercises at other facilities in order to broaden their perspective and experience. They should keep current on updates to the emergency plan.

Controllers use the MSEL to direct communication with players and to ensure that the exercise stays on track. Simulators also communicate with players, representing an organization affected by the exercise that was not able to attend. Actors support players by playing specific roles, such as injured victims.

Player Interaction with Controllers and Simulators

Controllers and simulators will have constant interaction with players throughout the exercise; however, each interacts differently. Controllers monitor and manage exercise activities to ensure that exercise objectives are being met, interact with players to determine the status of ongoing activities, and communicate with players by following the MSEL and injecting implementer messages. Controllers must ensure that they do not disrupt play when communicating with players. Simulators, on the other hand, play the role of nonparticipating persons or organizations.

The MSEL is the primary document used by exercise controllers to manage the exercise and to know when to insert event implementer messages into the exercise. The MSEL is restricted for use by controllers, simulators, and evaluators.

Simulators communicate with players by responding to questions from the players directed to nonplaying persons or organizations. Occasionally, a selected simulator may act as a surrogate for a senior official or decision-maker. While role playing as a senior official, the simulator may interact with players on a face-to-face basis.

Players have an active role in responding to an incident by either discussing (in discussion-based exercises) or performing (in operations-based exercises) their regular roles and responsibilities. Each player is responsible for acting on exercise messages in accordance with established procedures and for coordinating actions in the same manner as for an actual event. Players also must ensure that exercise control is informed of actions taken and completed through follow-up voice or message exchange initiated by the player.

Actors are mock victims who simulate specific roles, including injuries from a disaster, to add realism to an exercise. Actors may be made up to more realistically reflect their injuries or symptoms. This practice is referred to as moulage.

A sample checklist for managing the conduct of a full-scale exercise is presented in Table 13.

Evaluation

Exercise evaluation refers to the act of observing and recording exercise activity or conduct; applying the behavior or activity against exercise objectives; and noting strengths, weaknesses, deficiencies, or other observations.

As evaluated practice activities, operations-based exercises provide a process for continuous improvement. Evaluation is the cornerstone of exercises; it documents strengths and opportunities for improvement in a jurisdiction's preparedness and is the first step in the improvement process.

The evaluation process for all exercises includes a formal exercise evaluation, integrated analysis, and an AAR/improvement plan that should begin with exercise planning and end when improvements have been implemented and validated through subsequent exercises. The process recommended by HSEEP is presented in Figure 11. HSEEP Volume II provides extensive guidance for establishing evaluation programs and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv2.pdf.

As discussed earlier, Attachment 2 provides an exercise evaluation guide that can be used by transportation agencies to support evaluation of exercises. Both expected activities and performance measures are identified for each of the eight mission outcomes specified by the DHS.

HSEEP includes the following eight steps for evaluation:

- Plan/organize the evaluation.
- Observe the exercise and collect data.
- Analyze data.
- Develop AAR.
- Conduct debrief meeting.
- Identify improvements to be taken.
- Finalize AAR.
- Track implementation.

As described in this process, exercise evaluation should address each exercise objective to answer the following questions:

- Was the exercise objective met?

TABLE 13 FULL-SCALE EXERCISE CHECKLIST

Full-Scale Exercise Checklist
Participants:
☐ Controller(s)—sufficient to manage all event sites
☐ Actors (mock victims)—different age groups, body types, physical characteristics
☐ Players (most functions, all levels—policy, coordination, operation, field)
☐ Evaluators
☐ Simulators—to convey messages and actions for agencies or individuals who could not participate in the exercise
☐ Safety Officer
☐ **Site Selection:**
☐ Adequate space for number of victims, responders, and observers
☐ Space for vehicles and equipment
☐ As realistic as possible without interfering with normal traffic or safety
☐ Credible scenario and location
☐ **Scene Management:**
☐ Logistics (who, what, where, how, when)
☐ Believable simulation of emergency
☐ Realistic victims
☐ Preparation of simulators to realistically portray roles
☐ Number of victims consistent with type of emergency, history of past events
☐ Types of injuries consistent with type of emergency, history of past events
☐ Victim load compatible with local capacity to handle
☐ Props and materials to simulate injuries, damage, other effects
☐ **Personnel and Resources:**
☐ Number of participants
☐ Number of volunteers for scene set-up, victims, etc.
☐ Types and numbers of equipment
☐ Communications equipment
☐ Fuel for vehicles and equipment
☐ Materials and supplies
☐ Expenses identified (wages, overtime, fuel, materials and supplies)
☐ **Response Capability**
☐ Sufficient personnel kept in reserve to handle routine nonexercise events
☐ **Safety**
☐ Safety addressed through development
☐ Each design team member responsible for safety in own discipline
☐ Hazards identified and resolved
☐ Safety addressed in pre-exercise briefing, simulator, and evaluator packets
☐ Each field location examined for safety issues
☐ Safety officer designated, given authority
☐ **Legal Liability**
☐ Legal questions of liability researched by local attorney
☐ **Emergency Call-Off**
☐ Call-off procedure in place, including code word or phrase
☐ Call-off procedure tested
☐ **Media**
☐ Role of media addressed in planning, used as a resource
☐ Media and observers considered in logistical planning

- If yes, what were the results?
- If no, what changes are necessary to achieve the objective?

Determining how the exercise objectives were met allows evaluators to answer the following important questions about the transportation agency's performance:

- Are parts of the plan in need of revision?
- Is current equipment adequate?

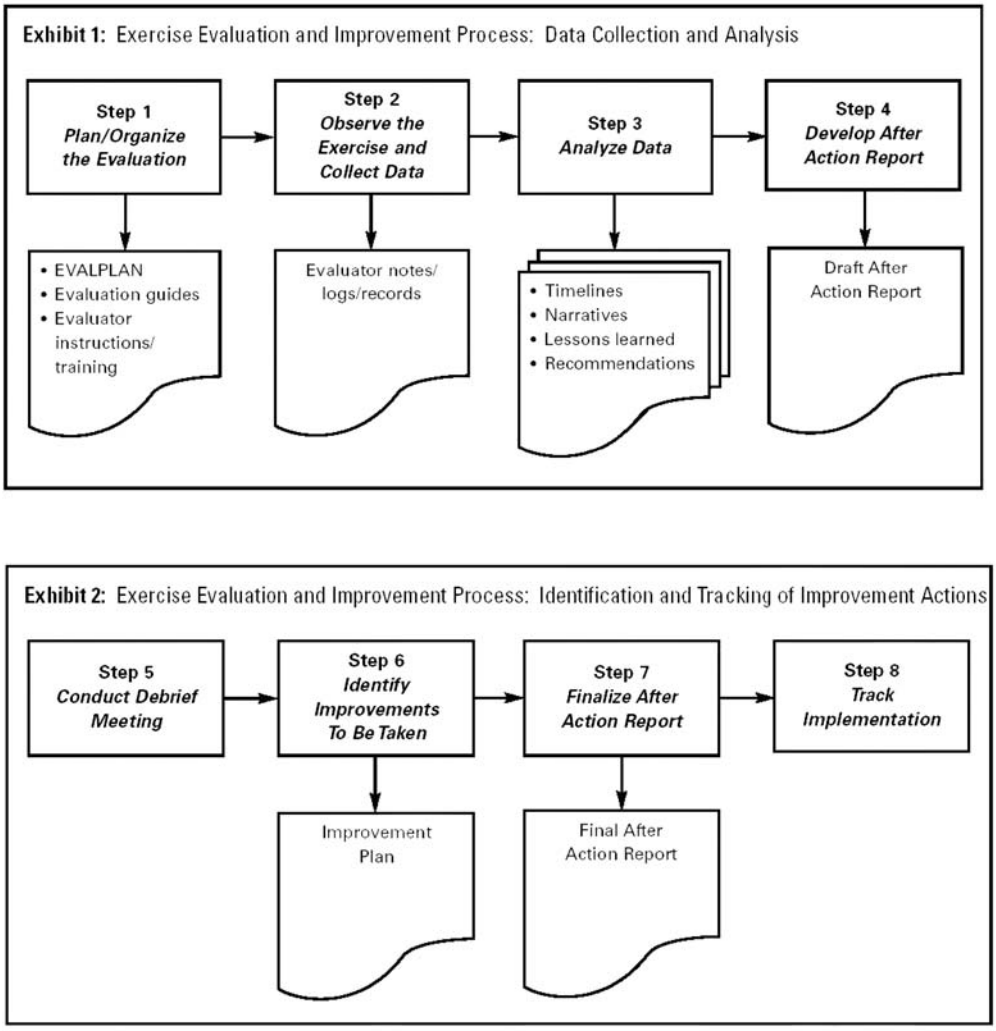

FIGURE 11 HSEEP PROCESS

- Is additional training required?
- Are additional resources necessary?
- Are staffing levels adequate?
- Is the communication system vulnerable to overload?
- How effectively did independent agencies cooperate to resolve the problem?

Evaluators record what they observe during the exercise, the hot wash sessions, and the after action review. Their objective is to describe what happened, compare it with what was supposed to happen (as scripted in the MSEL), and explain why any differences between the two occurred. Evaluators also take the lead in drafting recommendations and lessons learned from the exercise. Like controllers, evaluators must receive special training for the exercise.

For most operations-based exercises, evaluation involves the following activities:

The AAR is used to provide feedback to participating jurisdictions on their performance during the exercise. The AAR summarizes what happened and analyzes performance of the tasks identified through the planning process as critical and the demonstrated capacity to accomplish the overall exercise goal. The AAR includes recommendations for improvements based on the analysis, which will be addressed in the IPC.

DEBRIEF/HOT WASH

A debrief (for facilitators or controllers/evaluators) and/or hot wash (for players) should occur following both discussion- and operations-based exercises. The debrief is a forum for planners, facilitators, controllers, and evaluators to review and provide feedback on the exercise. It should be a facilitated discussion that gives each person an opportunity to provide an overview of the functional area that they observed and to document both strengths and areas for improvement.

The debrief should be facilitated by the lead exercise planner or the exercise director; results should be captured for inclusion in the AAR. Other sessions, such as a separate meeting for specialized responders during an operations-based exercise, may be held as necessary.

A hot wash occurs immediately following an operations-based exercise and gives players the opportunity to provide immediate feedback. It enables controllers and evaluators to capture events while they remain fresh in players' minds, to ascertain players' level of satisfaction with the exercise, and to determine any concerns and proposed improvement items. Each functional area (e.g., fire, law enforcement, and medical) should conduct a hot wash, and each hot wash should be facilitated by the lead controller for that area.

The debrief and/or hot wash provides an ideal time for facilitators, controllers, evaluators, and players to complete and submit their completed EEGs and feedback forms. Information from these forms should be included in the AAR/improvement plan.

Information on conducting debriefs and hot washes is available on the G&T Secure Portal, which is summarized at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

AFTER ACTION REPORT

To prepare this report, the exercise evaluation team will analyze data collected from the hot wash and/or debrief, participant feedback forms, and other sources (e.g., plans and procedures) and compare the actual results with the intended outcome. The level of detail in an AAR reflects the exercise type and size. AARs describe the exercise scenario, player activities, preliminary observations, major issues, and recommendations for improvement. A sample outline for an AAR includes the following:

- Executive summary:
  - — Strengths.
  - — Areas for improvement.
- Exercise overview:
  - — Exercise name.
  - — Exercise duration.
  - — Exercise date.
  - — Exercise location.
  - — Sponsoring agency.
  - — Type of exercise.
  - — Funding source.
  - — Classification (i.e., sensitivity of information).

  - Scenario.
  - Participating agencies.
  - Number of participants.
  - Exercise overview.
  - Exercise evaluation.
- Exercise goals and objectives:
  - Goal #1.
  - Objectives for Goal #1.
  - Goal #2.
  - Objectives for Goal #2.
  - Goal #3.
  - Objectives for Goal #3.
- Exercise events synopsis:
  - Scenario.
  - Timeline.
- Analysis of outcomes for each participating agency:
  - Analysis of how well the transportation agency and other participating agencies and jurisdictions performed their functions during the exercise. Examples include a few paragraphs on how well each participating agency performed its functions in response to the exercise scenario.
- Analysis of critical task performance:
  - Analysis of how individual tasks were performed, as defined in the evaluation guides. Each task identified by the exercise planning team as critical to the response required by the scenario should be discussed in this section. Tasks that were performed as expected require only a short write-up that describes how the task was performed. These write-ups generally would not be followed by recommendations. For tasks that were not performed as expected, the write-up should include (1) an issue statement; (2) references to plans, procedures, and evaluation guides; (3) a brief summary of the issue; (4) the effect of the issue on the response; and (5) an analysis of what happened or did not happen and the root causes for the variance from the expected outcome. Recommendations for improvement should also be presented to address identified issues. To facilitate tracking of recommendations and improvements, acronyms should be spelled out in each recommendation.
  - Documentation of a variance from expected performance that may have resulted in an improved response or innovative approaches that were used during the response.
- Conclusion
- Improvement plan matrix

Improvement planning ensures that identified weaknesses in the response are adequately addressed and resolved through corrective action by the transportation agency.

A sample AAR is available in HSEEP Volume II at http://www.ojp.usdoj.gov/odp/docs/HSEEPv2.pdf. Templates and checklists, integrated with exercise evaluation plans, are located on the G&T's Secure Portal and described in HSEEP Volume IV, which is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf.

Other AAR resources for operations-based exercises are available at the following websites:

- http://www.dhs.gov/interweb/assetlibrary/T2_Report_Final_Public.doc.
- http://www.tahc.state.tx.us/emergency/exercises/Panhandle_Exercise_Report.pdf.

Improvement Planning

Postexercise activities are essential to garnering the benefits of an exercise. Careful analysis and prioritization should go into developing the AAR recommendations and the improvement plan content.

Improvement Plan

The improvement plan converts lessons learned from the exercise into concrete, measurable steps that result in improved response capabilities. It is developed by the jurisdiction and identifies which actions will be taken to address each recommendation presented in the draft AAR, which agency will be responsible for taking the action, and what the timeline for completion is. This information should be derived from an after action conference conducted after the draft AAR is completed.

Improvement Tracking and Planning

Once the improvement plan has identified recommendations and action items and responsibility and due dates have been assigned, the jurisdiction and/or agency should ensure that each action item is tracked to completion. Each state should review all exercise evaluation feedback and resulting improvement plans to assess progress on enhancing preparedness and incorporate the information into its planning process. This review process may identify needs for additional equipment, training, exercises, coordination, plans, and procedures that can be addressed through the state homeland security strategy or multiyear exercise plan.

The G&T Secure Portal contains samples of improvement plans for tabletop exercises. HSEEP Volume IV provides a description of these materials and is available at http://www.ojp.usdoj.gov/odp/docs/HSEEPv4.pdf. FEMA also provides templates. They are available at http://training.fema.gov/emiweb/downloads/CorrectiveActionform.doc.

Transportation Incident Response Typology

To support the activities of transportation agencies in preparing operations-based exercises, **Attachment 6** provides additional information on transportation emergency response activities and possible emergency response organizations. This information can aid transportation exercise coordinators in developing scenarios and in designing evaluation measures for exercises.

APPENDICES

Appendix A—Abbreviations

Appendix B—Glossary of Terms

Appendix C—Categorized Resource Bibliography

Appendix D—Training and Exercise Resources

Appendix A—Abbreviations

AAR	After Action Report
C&O	Concept and Objectives
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosive
CDC	Centers for Disease Control and Prevention
C/E	Controller/Evaluator
COSIN	Control Staff Instructions
CPX	Command Post Exercise
DHS	Department of Homeland Security
DOJ	Department of Justice
E&DCP	Evaluation and Data Collection Plan
ECG	Exercise Control Group
E day	Day an Exercise Begins
EER	Exercise Evaluation Report
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPM	Exercise Program Manager
EPT	Exercise Planning Team
EVALPLAN	Evaluation Plan
EXPLAN	Exercise Plan
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPC	Final Planning Conference
FSE	Full-Scale Exercise
FTA	Federal Transit Administration
FY	Fiscal Year

G&T	Preparedness Directorate Office of Grants and Training
HazMat	Hazardous Materials
HSEEP	Homeland Security Exercise and Evaluation Program
ICP	Incident Command Post
ICS	Incident Command System
IPC	Initial Planning Conference
MCC	Master Control Cell
MOU	Memorandum of Understanding
MPC	Mid-Term Planning Conference
MSEL	Master Scenario Events List
ODP	Office for Domestic Preparedness
OJP	Office of Justice Programs
OSC	Office for Security Coordination
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
SAA	State Administrative Agency
SAP	State Assistance Plan
SHSGP	State Homeland Security Grant Program
SITMAN	Situation Manual
SMART	Simple, Measurable, Achievable, Realistic, Task Oriented
SME	Subject Matter Expert
SOP	Standard Operating Procedure
TTX	Tabletop Exercise
WMD	Weapon of Mass Destruction

Appendix B—Glossary of Terms

Activation. The process by which a facility (e.g., emergency operations center) is brought up to operational status; completion of activation occurs when the facility is prepared to carry out full operational requirements.

Activities. Actions carried out to achieve the outputs/results required to measure the accomplishment of objectives. They describe what the participant does in terms of deliberate efforts/measures to achieve the objectives. Subactivities appear as smaller, more detailed actions to be carried out as part of the activities.

Actor. A staff member who simulates nonparticipating organizations or key nonparticipating individuals. They may come in face-to-face contact with players or perform their functions from a simulation cell (SIMCELL). They may also function semi-independently (e.g., media reporters, next-of-kin, or injured personnel).

After Action Report (AAR). A documented report that collects, analyzes, and distributes exercise findings and lessons. The AAR is the basis for development of action plans and input to remedial action programs. It provides feedback for use in planning subsequent exercises.

After Action Review. A process designed to provide direct feedback on the accomplishment of selected tasks to evaluate proficiency. An after action review is an analytical review of exercise events that enables exercise participants, through a facilitated professional discussion, to examine actions and results during the exercise.

All Hazards. An approach to emergency management that addresses natural disasters and accidental or human-made events, including any natural catastrophe (e.g., hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought); fire; explosion; or other catastrophe, including those involving terrorist use of a weapon of mass destruction in any part of the United States that causes, or may cause, substantial damage or injury to civilian property or persons.

Artificiality. Conditions created by the design of an exercise that do not simulate or mirror actual conditions. A weapon of mass destruction (WMD) exercise scenario might require some degree of artificiality in respect to the world situation, the circumstances of the incident, the amount of agent released, and the distance traveled by the agent. These artificialities are included to fully energize and challenge the assets of participating organizations. (Technical planners will generally create any artificial effects of WMD agents and the weather used in an exercise.)

Assumption. Conditions or factors outside the direct control of exercise planners but so important that they will have to be met or have to hold true if the exercise is to achieve its objectives. If important assumptions are very unlikely to hold true, the exercise must then be redesigned to remove the unlikely assumptions.

Brainstorming. A technique of exploring a problem or issue, often in a workshop situation led by a facilitator, by inviting spontaneous ideas about the topic. These ideas are collected and documented for later discussion and review or analysis.

Capability. The ability to perform a task with skill or knowledge or to provide resources to meet a specific requirement.

Communications Directory. A two-part exercise document that contains telephone and fax numbers, email addresses, radio frequencies, and other contact information for exercise communications. One part provides all participants with a list of pertinent contact data for players, while the other part provides a limited distribution of controller data. (The communications directory is compiled using participants' inputs and should be tested prior to exercise execution.)

Compressed Time. A compressed exercise timeframe so that several days are played in a few hours. When time is compressed, players need some mechanism to show them where they are chronologically in exercise play. (See also time jump.) Exercises that do not employ compressed time employ real time.

Concept Development Meeting/Conference. A meeting that formally begins the exercise planning process and determines the exercise concept and goals. Exercise concept development is usually based on the stated exercise purpose, experience, operations, and historical precedence. This meeting provides initial planning guidance and helps set the agenda and parameters for the initial planning conference.

Concept and Objectives (C&O) Paper. The paper that forms the basis for the planning and development of an exercise, establishing the *who, what, when, where, why,* and *how.* It is based on agreements from the initial planning conference and provides exercise planners with the guidelines for continuing the development of an exercise. Exercise design and management structures, as well as roles and responsibilities of participating organizations for exercise planning and development, are also included.

Conditions. Performance-affecting variables of an operational environment or situation in which a team, system, or individual is expected to operate.

Consequence Management. An emergency management function, including measures to protect public health and safety; restore essential government services; and provide emergency relief to governments, businesses, and individuals affected by the consequences of a natural or human-made disaster or a terrorist act. At the federal level, FEMA defines consequence management, including the activities described in the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Constraints. Factors that nurture or cause deficiencies, or problems experienced by participants. Constraints may be related to resources, to actions, or to the results of actions.

Control Cell. Exercise staff personnel who control and manage the flow of the exercise and who may facilitate interfaces with nonparticipating groups—in effect simulating the response and activities of nonparticipating elements and organizations (see SIMCELL).

Control Staff Instructions (COSIN). Instructions containing the guidance that the exercise control staff (including controllers, simulators, and evaluators) need concerning procedures and responsibilities for exercise control, simulation, and support. It is a limited-distribution document for use by exercise controllers and evaluators only. The COSIN details the scenario for the duration of the exercise; develops guidelines for control and simulation support of the exercise; explains the exercise concept as it relates to controllers and simulators; establishes the management structure for these activities; establishes and defines the control structure's communications, logistics, and administration; and provides a calendar of key events and the MSEL.

Controller. An individual who ensures that objectives are sufficiently exercised to permit a valid evaluation, that the level of activity is sufficient to keep players occupied and challenged, and that the progress of the exercise is in accordance with the scenario. Controllers provide key data to players and may prompt or initiate certain player actions to ensure exercise continuity. Controllers are the only nonplayers who will provide information or direction to the players. Controllers are used in exercises. Two types of controller have a particularly important responsibility:

- *Chief Controller.* The individual responsible for the preparation of the COSIN and for coordination and oversight of the exercise control group, lead controllers, and all individual controllers.

- *Lead Controller.* The individual responsible for coordinating controller activities at a specific exercise location.

Controller and Evaluator (C/E) Handbook. A handbook that identifies the scope and concept of the exercise, including exercise assumptions, artificialities, and simulations, and provides a ready reference to the exercise storyline during the exercise. It also provides the rules and procedures applicable to controllers and evaluators based on guidance in the COSIN and EVALPLAN. Additionally, the handbook may contain guidance on C/E message preparation procedures; unique communications capabilities or requirements; and support for safety, security, and logistics. The handbook is optional and may be used as a supplement if a COSIN is published.

Controller Handbook. A handbook that provides controllers with the information necessary to conduct the exercise. The controller handbook contains background information, a basic exercise description, the short MSEL (i.e., the MSEL without implementers) and the long MSEL (i.e., the MSEL with implementers). The controller handbook can be used in lieu of a COSIN for small-scale exercises.

Controller Inject. A message or action introducing events, data, or other information to players from the control staff to provide an environment that facilitates the demonstration of an activity or attainment of exercise objectives.

Coordination. Active involvement of staff and response agencies in decision making to integrate available resources and implement response plans.

Counterterrorism. The full range of activities directed against terrorism, including preventive, deterrent, response, and crisis management efforts.

Crisis. A circumstance, event, or series of episodes that threatens to fundamentally affect or alter the way an organization conducts business.

Crisis Management. A predominantly law enforcement function including measures to identify, acquire, and plan the use of resources needed to anticipate, prevent, and/or resolve a threat or act of terrorism. In a terrorist incident, a crisis management response may include traditional law enforcement missions (such as intelligence, surveillance, tactical operations, negotiations, forensics, and investigations) as well as technical support missions (such as agent identification, search, render-safe procedures [RSPs], transfer and disposal, and limited decontamination). In addition to law enforcement missions, crisis management also includes assurance of public health and safety.

Criteria. Principles or standards by which things are judged. Criteria are used to compare various solutions against one another and decide among them. Criteria are always linked to the issue under consideration (e.g., achievability would be a criterion for deciding on the type of objective).

Critique. A meeting of players, facilitators and/or controllers, and evaluators following the conclusion of the exercise activity to discuss and review essential comments on operations and performance noted during exercise play.

Descriptive Reporting. A form of evaluation that describes in narrative fashion everything related to the assigned function of the evaluator.

Domestic Preparedness. A comprehensive nationwide program to (a) train, equip, exercise, and plan for local, state, and federal actions necessary to reduce vulnerability to terrorist acts throughout the entire threat spectrum, including terrorist use of chemical, biological, radiological/nuclear, and explosive WMDs; (b) establish authorities and responsibilities for preparedness activities and response actions and garner the resources to support them; (c) prevent, deter, or respond to terrorism; (d) respond to the consequences of a terrorist attack; and (e) ensure timely and accurate collection and dissemination of terrorism-related intelligence information.

Drill. A coordinated, supervised activity usually used to test a single, specific operation or function in a single agency. Drills are commonly used to provide training with new equipment, to develop new poli-

cies or procedures, to practice and maintain current skills, and to test skills that constitute one or more components of a plan.

Emergency. An incident that threatens human life, health, property, or the environment if not controlled, contained, and/or eliminated immediately. The threat of the condition, incident, or event requires immediate response actions to save lives; prevent injuries; protect property, public health, the environment, and public safety; or lessen or avert the threat of a disaster.

Emergency Management. The prevention of, preparation for, response to, and recovery from the acute effects of an emergency.

Emergency Operations Center (EOC). A facility or location from which the overall direction, control, and decision making of an operational response is coordinated. (At the municipal, county, state, and federal levels, EOCs are often staffed with multiorganizational or multidepartmental representatives.)

Evaluation. The process used to measure the demonstrated ability to accomplish specified objectives within a discrete exercise. Exercise evaluation refers to the act of reviewing or observing and recording exercise activity or conduct; applying the behavior or activity against exercise objectives; and noting strengths, weaknesses, deficiencies, or other observations.

Evaluation Plan (EVALPLAN). A document that establishes the procedures to be used in determining the viability of plans, policies, procedures, systems, and resources. The EVALPLAN provides evaluators with guidance on procedures and responsibilities to prepare for evaluation of the exercise, to accomplish evaluation tasks during and following the exercise, and to explain the evaluation concept and how it relates to each of the participating organizations and entities. The lead evaluator coordinates the procedures to be used by the evaluation team; the structure of evaluation management; and the procedures to be followed internally by the evaluation team to communicate and receive logistical and administrative support, to prepare reports, and to address other details.

Evaluator. An unbiased technical or functional expert tasked to document responder performance and the adequacy of facilities and equipment against established crisis and consequence management plans and exercise objectives. An evaluator is assigned to one or more exercise functions or locations to document and evaluate individual, team, and organizational performance based on the exercise objectives and performance criteria. Evaluators provide both positive and negative feedback concerning player performance as it relates to objectives. Evaluators are used in all types of exercise activities. Evaluation aims to improve future efforts through recommendations arising from the exercise; its aim is not to judge. Two types of evaluator are particularly important:

- *Chief Evaluator.* The individual responsible for preparation of the EVALPLAN, management of the overall evaluation or observation process, oversight of the evaluation team, and compilation of evaluation data for incorporation into an evaluation report.

- *Lead Evaluator.* The individual charged with supervising a group of evaluators at a given exercise site.

Evaluator Handbook. Material prepared for evaluators to use in performing assigned responsibilities.

Events. Realistic problems that occur as a result of the depicted incident. Events motivate player actions. They serve as the foundation for developing controller injects.

Exercise. An activity requiring a performance, integration, and coordination of response activities by several individuals and teams, as well as mobilization of personnel and resources. An exercise is carried out for the purposes of training and evaluation.

Exercise Control Group (ECG). The organizational structure put in place to control the flow of the exercise and to ensure that players are provided an environment in which objectives can be achieved. The

ECG is headed by the exercise director and includes members of the control group specifically responsible for monitoring the status of the MSEL and injecting event implementers.

Exercise Coordinator. An individual responsible for the overall management and coordination of an exercise activity.

Exercise Director. The sponsoring agency's or jurisdiction's responsible agent for the successful conduct of the exercise. As the senior exercise official, the exercise director has primary authority and overall responsibility for the design, development, control, and evaluation of the exercise. The exercise director provides general policy guidance to exercise planners, controllers, simulators, evaluators, and other interested parties. The exercise director also represents participants to higher authority within the crisis and consequence management community and has final approval authority for all exercise documentation. During the exercise, the exercise director supervises the activities of the ECG.

Exercise Evaluation Report (EER). A comprehensive report of an exercise. An EER typically summarizes the scope, scenario, participants, and active play activities. It analyzes the achievement of each objective and may assess the exercise management process. (See after action report.)

Exercise Management. The exercise director and the department, agency, and jurisdiction lead planners identified as the focal group responsible for administering and coordinating the design, development, conduct, and evaluation of exercise activities.

Exercise Organization. The group of people responsible for overall planning and control of the exercise, including management of the exercise design, development of the exercise scenario, development of all exercise documentation, preparation of control and evaluation plans, oversight of the execution of the exercise, and preparation of follow-on reports. The exercise organization includes the exercise director and the support structure established to plan, conduct, control, and evaluate the exercise.

Exercise Plan (EXPLAN). A plan providing planners and controllers with the information required to conduct the exercise. The EXPLAN contains information on the exercise concept, objectives, assumptions, artificialities, rules, and responsibilities. The EXPLAN also addresses security and logistical issues, provides public affairs guidance, and details safety considerations during exercise execution. The EXPLAN is made available to all exercise participants; its purposes are to identify the scope and concept of play for all players; provide key exercise assumptions, artificialities, and simulations; document scenario narrative leading to the start of the exercise; provide exercise objectives and associated evaluation elements; explain procedural aspects of exercise play; describe roles of controllers, simulators, and evaluators from the player's viewpoint; and establish administrative and support procedures applicable to player activity during the exercise.

Exercise Planning Team. The exercise staff personnel from the sponsoring agency or jurisdiction and trusted agents from other major participants. The team assists the management team in identifying requirements for administrative, communication, and logistical support; collaborates with planners at all levels on their respective administrative, logistical, and support needs; initiates actions to ensure that adequate support plans are developed and implemented; and assists in coordinating, facilitating, and obtaining inputs for the development and publication of exercise documentation.

Exercise Planning Timeline. A sequential list of major milestones in the planning and development of exercise documents and conferences. The exercise planning timeline is flexible and changes as the exercise develops.

Expected Actions. Anticipated player response actions prompted by exercise events, generally by a control inject. Expected actions help controllers monitor the exercise and determine if it is on track. They assist evaluators in determining if players are responding in accordance with plans. They are usually described in the implementer for a control inject.

Extent of Play (EOP). The parameters within which specific organizations will participate in an exercise. These parameters may limit play by objective, time, or other criterion and must be considered in exercise planning (e.g., EOC staffs will be prepositioned and will not activate the EOC in real time).

Facilitator. A specially trained individual assigned responsibility for guiding participant discussions to ensure that key issues are addressed. The facilitator is responsible for the procedure and process of an event (e.g., a workshop, meeting, or tabletop). The facilitator is usually an external person with no stake in the issue at hand; as such, the facilitator is responsible for how an event proceeds, not for the content.

Field Location. A geographic location, area, facility, or collection of field operations supported by a single emergency management organization.

Final Planning Conference (FPC). The last formal coordination meeting for the full exercise planning community. It is designed to help finalize the exercise organization and the requirements for staffing, scheduling, documentation, control, evaluation, logistics, and administration. The final EXPLAN is distributed following the FPC.

Free Play. The policy of allowing players to respond as realistically as possible within design parameters and without jeopardizing personnel or safety or expending unnecessary resources. In a free play exercise, player actions rather than control injects will be the driving force to meet objectives.

Full-Scale Exercise (FSE). An exercise enabling the validation of major aspects of plans, policies, procedures, systems, and resources and involving all levels of participating organizations. FSEs greatly expand the scope and visibility of the exercise program. FSEs include the mobilization of personnel and resources and the actual movement of crisis and consequence management workers, equipment, and resources required to demonstrate coordination and response capability. Large FSEs actively involve agencies and participants.

Functional Exercise. An exercise designed to test and evaluate individual capabilities, multiple functions, or activities within a function or interdependent groups of functions. A functional exercise can take place in an operating center, in the field, or a combination of the two. This format is applicable where the activity can be effectively evaluated in isolation from other activities. In contrast to the full-scale exercise, the objective of the functional exercise is to demonstrate the execution of specific plans and procedures and the direct application of established policy, plans, and procedures under emergency conditions, within or by a particular function team. The functional exercise simulates the reality of operations in a functional area to the maximum degree possible by presenting complex and realistic problems requiring rapid and effective responses by trained personnel in a highly stressful environment. Through documented evaluation and subsequent corrective action, the capabilities of the functional area are improved and weaknesses are reduced or eliminated. Functional exercises are sometimes called “command post” exercises.

Hazard. An actual or potential condition that can cause injury, illness, or death of personnel; damage to or loss of equipment or property and the environment; or degradation to an organizational capability.

Hot Wash. An informal, immediate debriefing session between players and members of the exercise planning team, in which players discuss their reactions to and observations of the exercise. Hot washes generally incorporate self-evaluation on the part of the players.

Implementer. The vehicle that places an MSEL item into exercise play. Implementers that provide input to players may be electronic, voice, hard copy, or face-to-face (e.g., telephone calls, radio transmissions, email, and the actions of actors).

Improvement Program. A common database that contains issues or findings from exercises and actual events, identifies recommended solutions for each issue, assigns responsibility for resolution, and provides a reporting system for tracking the progress of the issue through resolution.

Incident. An event that affects normal operations, requires attention, and has the potential to precipitate an emergency or crisis.

Initial Conditions. The existing conditions leading up to the start of an exercise. The initial conditions set the stage for the players and are usually presented in written format to players before exercise activities begin.

Initial Impressions Report. A compilation of the initial player and controller impressions and observations of the exercise as briefed at the hot wash. The initial impressions report describes the initial impressions of the exercise and is an interim to publication of the final AAR.

Initial Planning Conference (IPC). The first step in which participating departments, agencies, jurisdictions, and organizations play an active role in exercise planning. The IPC builds the framework for executing exercise design, development, control, conduct, and evaluation. Specifically, the IPC addresses the exercise purpose and overarching exercise objectives, conditions that affect exercise design (e.g., assumptions and artificialities), exercise design requirements, anticipated levels of participation, proposed exercise locations, control and evaluation methodologies, considerations for development of the MSEL, and tasks to participants. The IPC presents the basic scenario, scope, and timeline developed during the startup meeting. It offers a chance to solicit input for each participant's objectives and to build consensus among participants on exercise expectations. The purpose of this conference is to reach an agreement on the exercise concept and overall objectives, develop working groups, and select working group leaders.

Initial Planning Meeting. A meeting that, depending on the size and scope of an exercise, may meet the requirements for either the concept development meeting or the IPC.

Interagency Operations. Operations that involve several departments and agencies of the U.S. government. These organizations may include the U.S. Departments of Justice, Defense, Energy, Health and Human Services, and State; the Environmental Protection Agency; and FEMA. Interagency operations may also include states and other jurisdictions.

Issue. A shortcoming or deficiency identified during training or operations that precludes attaining a stated standard and that requires focused problem solving.

Key Events List. A list of major events that must occur at specific times in an exercise scenario to ensure that actions required to support exercise objectives occur. MSEL items and controller injects are sequentially linked to support each key event.

Large-Scale Game. A simulation of a crisis and consequence management operation using rules, data, and procedures designed to depict an actual or assumed situation with the objective of simulating a proposed plan of action or strategy to test its validity.

Lesson Learned. A problem encountered and corrected; a problem for which no solution was found; a successful action noted for future operations; a technique or procedure that allowed the task to be accomplished to standard despite an identified shortcoming and that may be applicable to other shortcomings in similar circumstances; or a changed behavior based on previous experiences that contributed to mission accomplishment.

Master Control Cell (MCC). The exercise director and chief controller. These people have central control over the exercise flow and the activities of the control and simulation staff at all exercise locations. The MCC is the final adjudicating authority regarding issues of exercise control and any major change to exercise scope.

Master Scenario Events List (MSEL). A primary exercise control document that includes a chronological list of exercise events, controller injects, and implementers used to stimulate and guide player

action. Each MSEL item with its implementer specifies what, when, by whom, and to whom injects will be used (including scenario time, event synopsis, expected response, and the objective to be demonstrated if appropriate).

Mid-Term Planning Conference (MPC). The MPC is an in-progress review of exercise coordination regarding the independent and interrelated planning actions required by the participating departments, agencies, jurisdictions, and organizations.

Mission. A task, together with the purpose, that clearly indicates the action to be taken and the reason therefore.

Narrative Report. An objective description of the actions observed by an evaluator during the exercise. A narrative report identifies the issues raised during exercise activities and includes recommendations for improvement.

Narrative Summary. A short overview of the exercise scenario written in paragraph form, outlining only the major events.

Objectives. The stated goals of exercise activities; the desired and achievable conditions that people strive for with respect to the problem being exercised. Exercise objectives are used to identify the exercise scope (specify the functions to be demonstrated), the extent of organization/personnel participation, and the breadth and depth of exercise activities to be accomplished or simulated. Exercise objectives specifically describe an activity or capability to be measured.

Observer. A person who participates in and monitors the exercise. In some exercises, the observer completes a formal overall evaluation of the exercise, just like an evaluator does. In other exercises (e.g., in tabletops), the observer limits his or her evaluation to feedback regarding specific functions, activities, or disciplines.

Participant. An all-inclusive term that describes anyone involved in an exercise (e.g., players, evaluators, controllers, observers, actors, and role players).

Performance Measures. The actions that can be objectively observed and measured to determine if a task performer has performed the task to the prescribed standard.

Performance Requirements. The response activities required or expected of the organization, teams, or individuals as established by regulatory mandate, industry standard, or company policy.

Performance Standard. A criterion by which operational and management functions can be measured to evaluate the degree to which those functions have achieved a minimum level of quality.

Player. An individual who actively participates in an exercise by performing a role in response to the situations presented.

Player Handbook. A handbook that provides players with the basic information they need to participate in the exercise. It identifies the scope and concept of play; key exercise assumptions, artificialities, and simulations; and the scenario narrative leading to the start of the exercise. The handbook contains the exercise's unique rules and procedures such as specific player guidance on message preparation, player safety, security, and logistic support. Use of a player handbook is optional; the EXPLAN could be sufficient if read and understood by exercise participants.

Point of Review (POR). An account of how the objectives will be demonstrated, what aspects will be physically demonstrated, and what events will be simulated. PORs are series of questions prepared for each objective to aid in collecting the data needed to determine if each objective was successfully demonstrated in an exercise. PORs are qualified and/or quantified parameters that detail the extent to

which objectives have been achieved within a given timeframe and at a specified location. They represent performance standards and should be objectively verifiable by all persons involved in monitoring and evaluation. PORs are tied directly to plans, policies, procedures, and systems.

Procedural Flow Synopsis (PROFLOW). A description of the responsibilities and functions of the organizations responding during the exercise. The PROFLOW provides planners and controllers with a sequential list of anticipated actions by these organizations, including the specific response forces and the plans and policies in effect for the exercise scenario. The PROFLOW also describes the phases of the anticipated response for a WMD incident.

Quick-Look Report. (See initial impressions report.)

Role Player. (See actor, simulator.)

Scenario. A sequential account of a hypothetical situation or chain of events that depicts an incident, emergency, or crisis and all the associated consequences used to frame and guide simulation during an exercise.

Scenario Narrative. Brief summary that sets the stage for the exercise, providing background information.

Scenario Storyline. A part of the scenario that consists of the chronology of actions that must occur to achieve exercise objectives. The storyline is supported by the key events list and the MSEL.

Seminar. An informal discussion in a group setting, in which a seminar leader facilitates the group's focus on a specific topic or issue. Seminars occur in a low-stress environment.

Simulation. An artificially produced condition that replicates a real-life situation. In the broad sense, exercises and games are simulations. The term also refers to a method of conducting computer-assisted exercises.

Simulation Cell (SIMCELL). The staff with the expertise to respond to player requests for information from nonparticipating departments, agencies, jurisdictions, and organizations and to prepare and inject ad hoc information to maintain the flow and direction of the exercise. In small-scale exercises, the SIMCELL and control cell may be synonymous.

Simulator. An individual assigned the responsibility to artificially duplicate (i.e., role play) the response activities of personnel and groups not participating in the exercise.

Site Restoration Guide/Site Restoration Plan. A guide that is used when a separate site restoration phase is played during an exercise. The plan provides a structure for the site restoration phase of the exercise and describes expected plans and player actions.

Situation Manual (SITMAN). The primary exercise document in a tabletop exercise. The SITMAN contains the exercise's unique rules and procedures, the scope and concept of play, exercise assumptions, artificialities, the lead-in scenario narrative, and situational updates.

Standard. The minimum acceptable proficiency required in the performance of a particular task under a specified set of conditions. A standard is defined by the responsible organization's plans, policies, protocols, and procedures and consists of a measure and a criterion: (a) Measure. Provides the basis for describing varying levels of task performance. (b) Criterion. Defines acceptable levels of performance.

Subject Matter Expert (SME). An individual who has a thorough knowledge of a job or an area of expertise that qualifies the individual to assist in evaluation, consultation, review, and analysis.

Tabletop Exercise (TTX). An exercise that simulates an emergency in an informal, stress-free, conference-room-type environment.

Task. A clearly defined and measurable activity accomplished by individuals and organizations.

Terrorism. The unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. Terrorism can be domestic or international:

- *Domestic Terrorism.* Terrorism that is based and operated entirely within the United States and U.S. territories without foreign direction and whose acts are directed at elements of the U.S. government or population.
- *International Terrorism.* The unlawful use of force or violence committed by a group or individual who has some connection to a foreign power and whose activities transcend national boundaries against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof in furtherance of political or social objectives.

Threat. The known or suspected presence of an actor with the ability, will, and motive to inflict harm.

Time Jump. An exercise mechanism by which scenario events may be artificially accelerated to place players in situations that would occur at a future point in time. Time jumps require exercise play to be stopped and then to resume at some future point in time. Time jumps are done to include events that otherwise would not occur in the limited amount of time allowed for an exercise. The control staff or the design of the exercise must provide information to the players regarding activities that may have occurred during the intervening time and provide a revised situation update for exercise resumption. Time jumps are sometimes referred to as time warps.

Timeline. A chronology of exercise events or planning milestones.

Training. Instruction and applied exercises for the attainment and retention of knowledge, skills, and attitudes.

Trusted Agent. A member of the exercise planning team or another individual with unique or specialized expertise who is confidentially included in the scenario development to ensure that realistic events are postulated and that appropriate responses are anticipated.

Walk-Through. A type of evaluation in which evaluators inspect the physical layout of a facility or area (including equipment, attendant resources, and procedures) to determine conformity with plans, policies, and procedures.

Weapon of Mass Destruction (WMD). Any device, material, or substance used in a manner, in a quantity or type, or under circumstances evidencing an intention to cause death or serious injury to persons or significant damage to property.

Workshop. A meeting that generally involves briefings and the use of facilitated breakout sessions where preestablished topics and issues are discussed and results of these breakout sessions are reported in a plenum.

Appendix C—Categorized Resource Bibliography

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Exercise Evaluation Form. Canadian Centre for Emergency Preparedness, Burlington, Ontario, Downloaded October 2004. http://www.ccep.ca/cceptemp.html.

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Hazardous Materials Exercise Evaluation Form (Part 2). Federal Emergency Management Agency, Washington, D.C., February 1992. http://training.fema.gov/emiweb/downloads/HMFormsEval%20Forms.doc.

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Emergency Management Exercise After Action Report/Corrective Action Plan. Minnesota Department of Public Safety, Homeland Security and Emergency Management, St. Paul, Minn., March 2004. http://www.hsem.state.mn.us/uploadedfile/exer_rpt_form.doc.

Energy Shortage Exercise After Action Report. Pennsylvania Emergency Management Agency, Harrisburg, Penn., March 2001. http://www.pema.state.pa.us/pema/CWP/view.asp?A=200&Q=221350.

Exercise After-Action Report. Kentucky Division of Emergency Management, Frankfort, Ky., March 2001. http://kyem.dma.ky.gov/admin%20regs%202001/Forms/KyEMformexer-207.dot.

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Operation Jumpstart After-Action Report. University of Washington, Office of Emergency Management, Seattle, Wash., May 2004. http://www.washington.edu/admin/business/oem/files/jumpstart.pdf.

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Appendix D—Training and Exercise Resources

Directorate for Preparedness

Main Homepage

http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0794.xml

Course Catalog

http://www.ojp.usdoj.gov/odp/docs/coursecatalog.pdf

G&T-Sponsored WMD Courses

Awareness-Level Courses

- Emergency Response to Terrorism: Basic Concepts
- Emergency Response to Terrorism: Basic Concepts (Train–the–Trainer)
- Emergency Response to Terrorism: Basic Concepts (Self-Study)
- Managing Civil Actions in Threat Incidents (MCATI): Basic Course (Train–the–Trainer)
- Terrorism Awareness for Emergency Responders (Internet)
- Emergency Medical Services (EMS): Basic Concepts for WMD Incidents (Internet)
- Public Works: Basic Concepts for WMD Incidents (Internet)
- Law Enforcement Response to Weapons of Mass Destruction—Awareness
- Law Enforcement Response to Weapons of Mass Destruction—Awareness (Train–the–Trainer)
- Incident Response to Terrorist Bombings—WMD Radiological/Nuclear Awareness
- WMD Radiological/Nuclear Awareness (Train–the–Trainer)

Performance-Level Courses

- Weapons of Mass Destruction Crime Scene Management for Emergency Responders
- Weapons of Mass Destruction HazMat Evidence Collection
- Managing Civil Actions in Threat Incidents (MCATI): Protester Devices
- Public Works: Planning for and Responding to a Terrorism/WMD Incident
- Emergency Medical Services (EMS) Operations and Planning for Weapons of Mass Destruction
- Emergency Response to Domestic Biological Incidents—Operations Weapons of Mass Destruction Tactical Operations Course—Technician Level
- Public Safety Response—Sampling Techniques and Guidelines

- Computer-Aided Management of Emergency Operations (CAMEO)—Operations Level
- Law Enforcement Response to Weapons of Mass Destruction—Operations Level (Train–the–Trainer)
- Advanced Chemical and Biological Integrated Response Course (ACBIRC)—Technician Level
- Incident Response to Terrorist Bombings—Operations (Train–the–Trainer)
- Radiological/Nuclear Responder Operations Course
- WMD Radiological/Nuclear Course for HazMat Technicians
- WMD Exercise Development Course Mobile Training Team
- Emergency Response to Terrorism: Operations Course
- Emergency Response to Terrorism: Operations Course (Train–the–Trainer)
- WMD Technical Emergency Response Training Course (Live Agent)
- WMD Hazardous Materials Technician Training Course (Live Agent)
- WMD Hazardous Materials Technician Sustainment

Planning- and Management-Level Courses

- Mayoral Institute for WMD/Terrorism Incident
- Senior Officials Workshop for WMD/Terrorism Incident
- Incident Management/Unified Command for WMD/Terrorism Incidents
- WMD Incident Command Training (Live Agent)
- Managing Weapons of Mass Destruction: An Executive-Level Program
- Managing Civil Actions in Threat Incidents (MCATI): Command Course
- Weapons of Mass Destruction: Threat and Risk Assessment (Local Jurisdiction)
- WMD Hands-On Training (HOT) (Live Agent)
- Hospital Emergency Management: Concepts and Implications of WMD Terrorist Incidents
- Master of Arts Degree in Homeland Security

Other G&T-Recognized, Federal-Agency-Sponsored WMD Courses

Awareness-Level Courses

http://www.cdc.gov/train.htm:

- Live streaming video courses sponsored by the CDC concerning bioterrorism

- Bioterrorism Preparedness and Response Network—National Public Health Training Network (PHTN)

http://training.fema.gov/EMIWeb:

- CSEPP Chemical Awareness
- IEMC/Consequences of Terrorism
- Orientation of Hazardous Materials for Medical Personnel (Self-Study)
- Radiological Emergency Management (Self-Study)
- Radiological Emergency Response (Self-Study)
- Refresher Course for Radiological Response (Self-Study)

Performance-Level Courses

http://www.cdc.gov/train.htm:

- Laboratory Training for Public Health and Clinical Laboratories

http://www.training.fema.gov/EMIWeb:

- Advanced Radiological Incident Operations (ARIO)
- Fundamentals Course for Radiological Response
- Hospital Emergency Department Management of Hazardous Materials Accidents
- Radiological Emergency Response Operations (RERO)
- Radiological Series (Train–the–Trainer)
- ACT FAST (Agent Characterization and Toxicity First Aid and Special Treatment)

http://www.orau.gov/reacts/courses.htm:

- Handling of Radiological Accidents by Emergency Personnel

http://web.em.doe.gov/otem/training_draft.html:

- Modular Emergency Response Radiation Transportation Training Blocks

http://www.hammertraining.com/coursecatalog.cfm:

- RADWORKER1

http://www.usfa.fema.gov/fire-service/nfa.cfm:

- Hazardous Devices School—EOD/Bomb Technicians
- ERT: Advanced Tactical Management: Mass Decontamination/Patient Management

Planning- and Management-Level Courses

http://www.training.fema.gov/EMIWeb:

- Exercise Design
  - WMD: Biological—Anthrax Scenario
  - WMD: Chemical—Sarin Scenario
  - WMD: Chemical—VX Scenario
  - WMD: Nuclear Scenario
  - WMD: Radiological Scenario
- Exercise Evaluation
- Senior Officials Workshop on Terrorism
- Emergency Response to Criminal and Terrorist Incidents
- IEMC/All Hazards: Preparedness and Response
- IEMC/All Hazards: Recovery and Mitigation
- Recovery from Disaster
- Radiological Emergency Preparedness (REP) Planning
- Terrorism and Emergency Management (Higher Education)

http://www.usfa.fema.gov/fire-service/nfa.cfm:

- ERT: Advanced Tactical Management of WMD (Consists of Unified Command, Mass Patient Management, and Tactical Information Management)
- ERT: Incident Management
- ERT: Strategic Considerations for Command Officers
- Incident Command Systems (Self-Study)

WMD-Related Federal Agencies:

Department of Energy

http://www.em.doe.gov/

DOE Environment, Safety and Health Technical Information Services

http://www.eh.doe.gov/

Department of Health and Human Services

http://www.hhs.gov/

Training: http://www.hhs.gov/TrainingOpportunities.shtml

ATSDR: Agency for Toxic Substances and Disease Registry: http://www.atsdr.cdc.gov

CDC: Centers for Disease Control and Prevention: http://www.cdc.gov/train.htm

Public: Health Emergency Preparedness and Response: http://www.bt.cdc.gov

MMWR: Morbidity and Mortality Weekly Report: http://www.cdc.gov/mmwr

NHIC: National Health Information Center: http://www.health.gov/nhic/

U.S. Department of Homeland Security

http://www.dhs.gov

U.S. Department of Transportation

http://www.dot.gov

Office of Hazardous Materials Safety

http://HazMat.dot.gov

Environmental Protection Agency

http://www.epa.gov

Federal Emergency Management Agency

http://www.fema.gov

Education and Training Resources: http://www.fema.gov/tab_education.shtm

EMI: Emergency Management Institute: http://training.fema.gov/EMIWeb

USFA: U.S. Fire Administration: http://www.usfa.fema.gov/fire-service/nfa.cfm

Nuclear Regulatory Commission

http://www.nrc.gov

FEMA's Directory of State Offices and Agencies of Emergency Management

http://www.fema.gov/fema/statedr.shtm

U.S. Army Medical Research Institute of Chemical Defense

http://ccc.apgea.army.mil

Textbooks and Handbooks on Chemical Weapons Casualty Care

http://ccc.apgea.army.mil/products/handbooks/books.htm

Includes the following (you must login in order to download):

- Textbook of Military Medicine: Medical Aspects of Chemical and Biological Warfare
- Field Management of Chemical Casualties
- Medical Management of Chemical Casualties
- Medical Management of Biological Casualties
- Medical Management of Radiological Casualties
- NATO Handbook on the Medical Aspects of NBC Defensive Operations
- The Medical NBC Battle Book
- Treatment of Biological Warfare Agent Casualties—Field Manual

U.S. Army Medical Research Institute of Infectious Diseases

http://www.usamriid.army.mil

Medical Management of Biological Casualties Handbook

http://www.nbc-med.org/SiteContent/HomePage/WhatsNew/MedManual/Feb01/handbook.htm

U.S. Army Soldier and Biological Chemical Command

http://www.ecbc.army.mil/index.htm

This is a very useful site for guidance on equipment purchase (detectors, monitors, boots, gloves, suits, respirators, etc). It also has the Military Improved Response Program reference guides. These guides pertain to overall and specific functional areas of response to a WMD incident such as:

- Chemical protective clothing
- Criminal and epidemiological investigations
- Decontamination, including guidance for cold weather decontamination
- Incident/unified command issues, including decision tree matrices for biological and chemical terrorism events
- Mass casualty management
- Mass fatality management
- Mass prophylaxis
- Personal protective measures

Additional WMD Agent References

Chemical and Biological Weapons Resource Page

http://cns.miis.edu/research/cbw/index.htm

CBIAC (Chemical and Biological Defense Information Analysis Center)

http://www.cbiac.apgea.army.mil

Chemical and Biological Arms Control Institute

http://www.mipt.org/Source.asp?id=92

Medical NBC Online Information Server

http://www.nbc-med.org/ie40/Default.html

ATTACHMENT 1 NRP AND NIMS REFERENCE MATERIALS

National Response Plan and National Incident Management System Requirements for Transportation Agencies

In addressing requirements identified in the National Response Plan and the National Incident Management System, prior to conducting emergency exercises, most transportation agencies will, at a minimum, have to perform the following activities:

- Review National Response Plan/National Incident Management System requirements and identify the elements relevant for the transportation agency in coordinating with its emergency response communities at the local/regional/state level.
- Review protocols developed by local/regional/state emergency management agencies and emergency response agencies to support implementation of the National Incident Management System. Identify impacts on transportation activities and emergency response functions.
- Revise memorandum of understanding/memorandum of agreement with local/regional/state emergency management agencies and emergency responders to reflect National Incident Management System requirements and to formalize mutual aid protocols (required in both the National Response Plan and the National Incident Management System).
- Revise the transportation agency's emergency operations plan to reflect National Response Plan and National Incident Management System organizational structures, terminology, definitions of emergency and of incidents of national significance, revised memoranda of understanding/memoranda of agreement, and local/regional/state communication and coordination protocols.
- Provide a copy of the revised transportation emergency operations plan to the local/regional/state emergency management agency.
- Develop a system for 24/7 emergency notification from/communication with local/regional/state emergency management agency and/or emergency operations center.
- Review existing transportation commitments to city/county/state emergency operations plans, verify transportation agency resources, and document emergency management capacity.
- Develop an inventory of the transportation agency's emergency management capacity and update it annually, submitting the revised inventory to the appropriate local/regional/state emergency management agency.
- Designate a member of the transportation agency to participate in city/county emergency management agency board meetings, training, and other activities.
- Designate a member of the transportation agency to serve as a contact person for the local/regional/state emergency coordinator on matters in connection with the local/regional/state incident management system protocol.
- Develop a procedure to provide the local/regional/state emergency operations center with information received from transportation personnel regarding the traffic capacity along routes and any unusual incidents that may impact emergency services, and keep the emergency operations center regularly informed of any route changes.
- Revise transportation emergency operating procedures to reflect National Response Plan/National Incident Management System terminology and protocols, revised memoranda of understanding/memoranda of agreement with local/regional/state emergency management and response agencies, and revised commitments to city/county/state emergency operations plans.
- Designate a representative from the transportation agency to serve as a liaison with the local/regional/state emergency management agency and to report to the local/regional/state emergency operations center upon activation.
- Prepare to provide, at the incident scene, a representative, if requested to do so by the local/regional/state emergency management agency or emergency responders, to assist in coordinating the provision of the transportation agency's services.

- Participate in the training conducted by the local/regional/state emergency management agency and assist, to the degree the transportation agency deems appropriate, the local/regional/state emergency management agency in the development and delivery of training programs in connection with the local/regional/state incident management system.
- Develop a formal process for addressing requests from the local/regional/state emergency management agency or emergency operations center in connection with the response to and recovery from a major emergency incident.
- Prepare and update training to reflect revised transportation emergency plans, procedures, and coordination protocols with local/regional/state emergency management agencies and emergency responders.

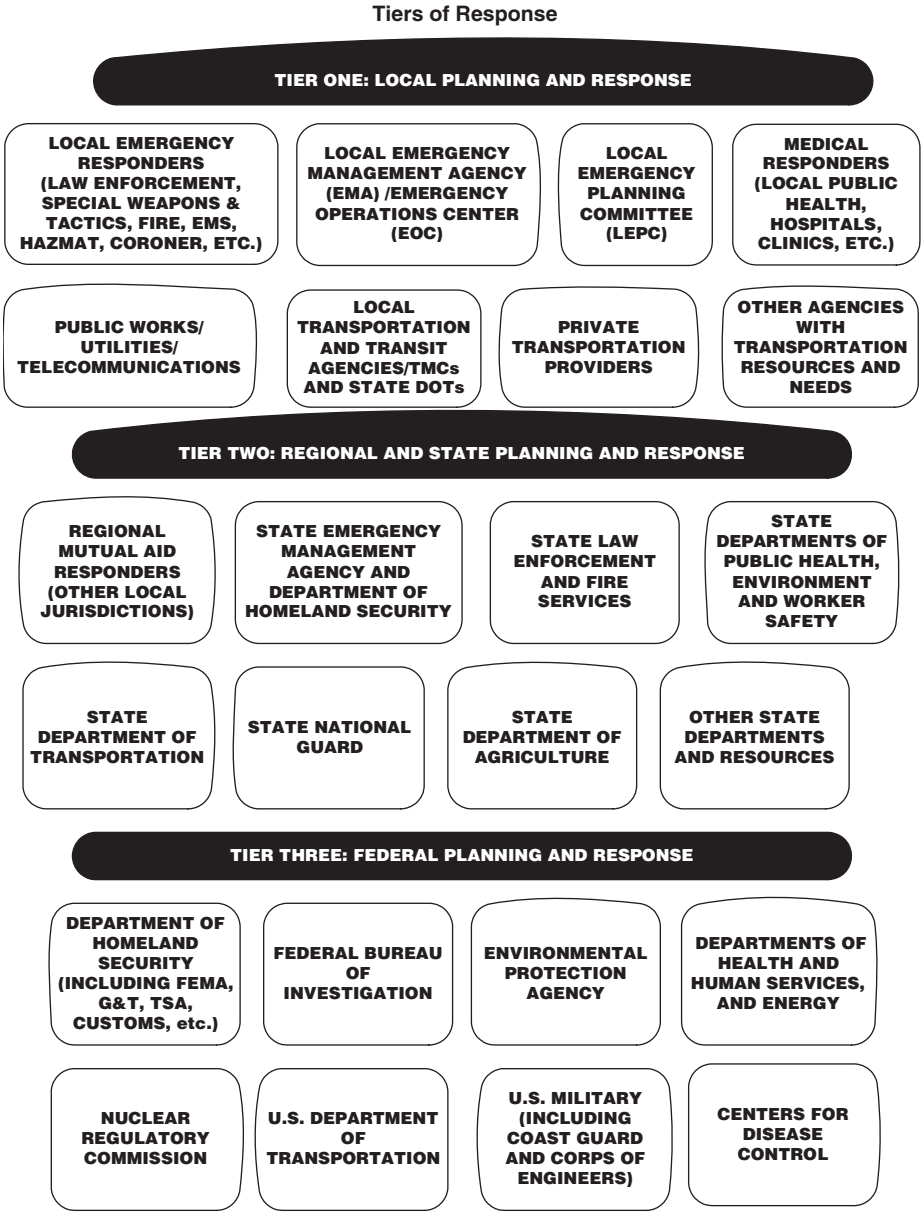
Primary Response Components and Activities in NIMS and the NRP

Response Element	Activities Performed by Local Agencies to Establish NIMS/NRP Command and Coordinating Response Structure	Activities Performed by the Transportation Agency to Integrate into NIMS/NRP Response Structure
On-Scene Command Structure	Local responders establish incident command system (ICS) on-scene, including: ► Incident commander ► Incident command post ► Activation of incident command sections ► Incident logistics center ► Incident communications framework ► Incident action planning ► Use of ICS incident action planning and support/recording forms	Transportation agency establishes its incident management system (IMS) on-scene, including: ► Transportation incident commander ► Transportation command post ► Activation of transportation field organization ► Transportation field communications ► Liaison role with responder ICS ► Incident briefing and scene safety ► Transportation participation in local responder incident action planning ► Transportation incident activity log
Expanded On-Scene Command Structure	Local responders expand ICS to unified command, including: ► Unified commander ► Unified command structure ► Activation and staffing of ICS sections under unified command ► Communications framework to support unified command ► Incident action plan (IAP) for unified command ► Use of ICS IAP and support/recording forms for unified command	Transportation role is established in supporting unified command, including: ► Participation in unified command or liaison with unified command ► Continued activation of transportation field organization ► Transportation field communications framework to interface with unified command ► Transportation briefing and scene safety ► Transportation participation in incident action planning
Oversight of On-Scene Command Structure	Local responders expand unified command to establish unified area command, including: ► Unified area command structure and members ► Overall incident priorities ► Allocation of critical resources based on identified priorities ► Support for integrated management of each incident ► Support for communications across incidents ► Identification and reporting of resource needs	Transportation role is established in supporting unified area command, including: ► Transportation support for multiple command posts/incident scenes ► Transportation participation in unified area command or liaison with unified area command ► Transportation support for priorities established by unified area command ► Transportation support for resource allocation and identification of additional resources required ► Transportation field communications framework
Multiagency Coordination Systems—Emergency Operations Centers (EOCs)	Emergency operations centers (EOCs) are established to support incident response, including: ► Activation and staffing of department operations centers (DOCs), linked to incident command post, to support individual agency response (e.g., fire, police, and emergency medical services) ► Activation and staffing of local/county	Transportation establishes its coordinating structure to support local incident response, including: ► Activation and staffing of a transportation EOC to support transportation field response. ► Setting up a designated communication link between the transportation EOC and the transportation command post

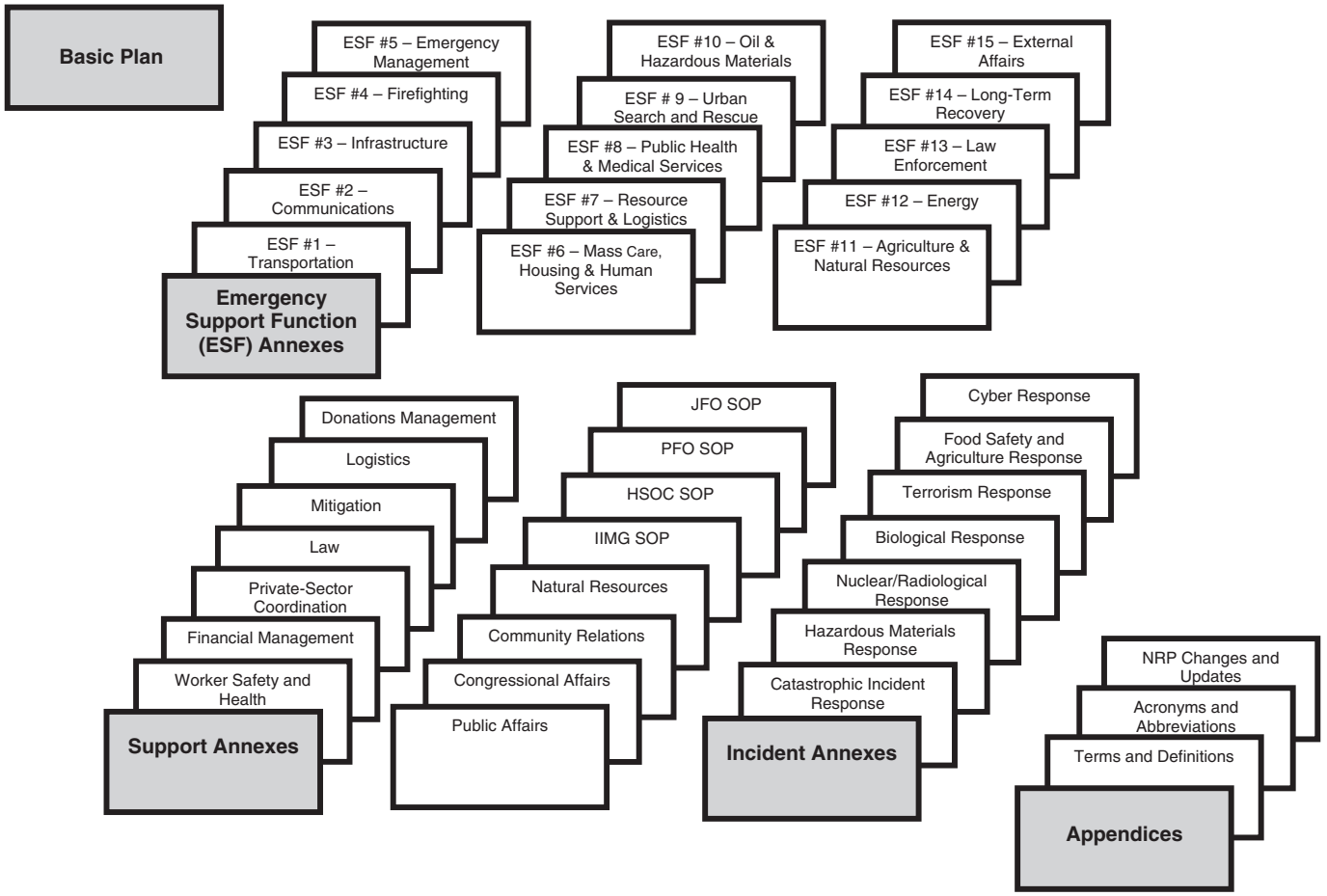
(continued)

(*Continued*)

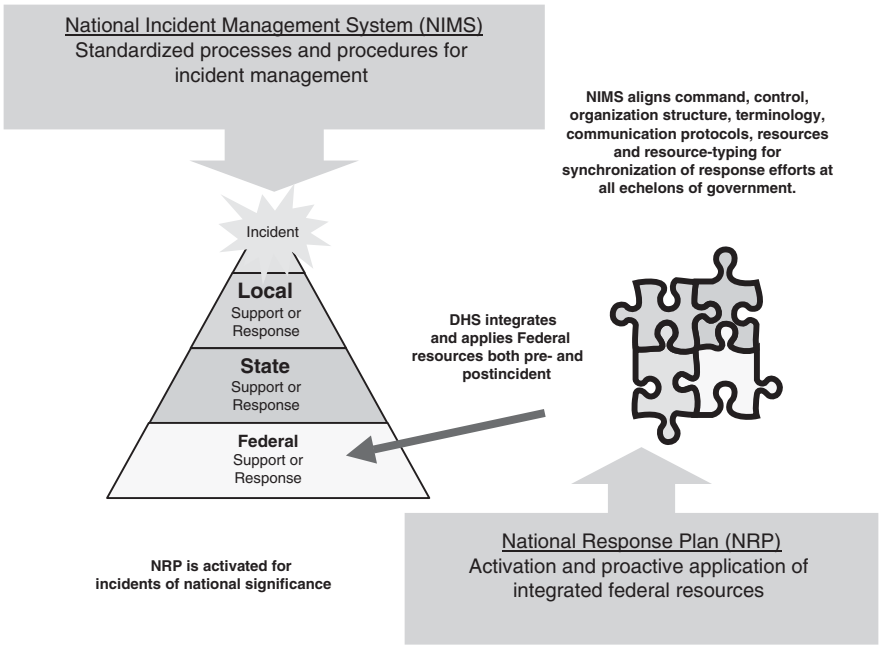
Response Element	Activities Performed by Local Agencies to Establish NIMS/NRP Command and Coordinating Response Structure	Activities Performed by the Transportation Agency to Integrate into NIMS/NRP Response Structure
	EOCs by personnel representing multiple jurisdictions and functional disciplines, organized to provide/coordinate information and resources and to support long-term analysis and planning ► Activation and staffing of state EOCs to assume responsibility for coordination of information and resources to support state incident management activities ► Activation and staffing of the Regional Response Coordination Center (RRCC) as a standing facility operated by FEMA to coordinate regional response efforts, establish federal priorities, and implement federal support ► Activation and staffing of a joint field office (JFO) as a temporary federal facility established locally to coordinate operational federal assistance to the affected jurisdiction(s). The JFO takes over from the RRCC. ► Activation and staffing of the Homeland Security Operations Center (HSOC) to serve as the primary national hub for domestic incident management operational coordination and situational awareness. Also shares homeland security information with local/regional/state and federal EOCs.	► Coordination with EOCs established at the local/county/state level, including the dispatching of transportation representatives to local/county/state EOCs and the designation of electronic and telephonic means of communication. ► Coordination with federal EOCs as necessary and requested
Multiagency Coordination Entities	Coordination entities are established to manage federal resources at the scene, including: ► JFO coordination group, which coordinates the request and delivery of federal assistance and support from various special teams composed of federal and state personnel. ► The Interagency Incident Management Group (IIMG), which is a federal headquarters-level entity that facilitates federal domestic incident management for incidents of national significance. The IIMG membership is flexible and can be tailored or task-organized to provide the appropriate subject-matter expertise required for the specific threat or incident.	Transportation is prepared to support multiagency coordination entities, including: ► Coordination with federal multiagency coordination entities as necessary, required, or requested.


Tiers of Response
TIER ONE: LOCAL PLANNING AND RESPONSE
LOCAL EMERGENCY RESPONDERS (LAW ENFORCEMENT, SPECIAL WEAPONS & TACTICS, FIRE, EMS, HAZMAT, CORONER, ETC.)
LOCAL EMERGENCY MANAGEMENT AGENCY (EMA) /EMERGENCY OPERATIONS CENTER (EOC)
LOCAL EMERGENCY PLANNING COMMITTEE (LEPC)
MEDICAL RESPONDERS (LOCAL PUBLIC HEALTH, HOSPITALS, CLINICS, ETC.)
PUBLIC WORKS/ UTILITIES/ TELECOMMUNICATIONS
LOCAL TRANSPORTATION AND TRANSIT AGENCIES/TMCs AND STATE DOTs
PRIVATE TRANSPORTATION PROVIDERS
OTHER AGENCIES WITH TRANSPORTATION RESOURCES AND NEEDS
TIER TWO: REGIONAL AND STATE PLANNING AND RESPONSE
REGIONAL MUTUAL AID RESPONDERS (OTHER LOCAL JURISDICTIONS)
STATE EMERGENCY MANAGEMENT AGENCY AND DEPARTMENT OF HOMELAND SECURITY
STATE LAW ENFORCEMENT AND FIRE SERVICES
STATE DEPARTMENTS OF PUBLIC HEALTH, ENVIRONMENT AND WORKER SAFETY
STATE DEPARTMENT OF TRANSPORTATION
STATE NATIONAL GUARD
STATE DEPARTMENT OF AGRICULTURE
OTHER STATE DEPARTMENTS AND RESOURCES
TIER THREE: FEDERAL PLANNING AND RESPONSE
DEPARTMENT OF HOMELAND SECURITY (INCLUDING FEMA, G&T, TSA, CUSTOMS, etc.)
FEDERAL BUREAU OF INVESTIGATION
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENTS OF HEALTH AND HUMAN SERVICES, AND ENERGY
NUCLEAR REGULATORY COMMISSION
U.S. DEPARTMENT OF TRANSPORTATION
U.S. MILITARY (INCLUDING COAST GUARD AND CORPS OF ENGINEERS)
CENTERS FOR DISEASE CONTROL

National Response Plan Components



National Response Plan and National Incident Management System

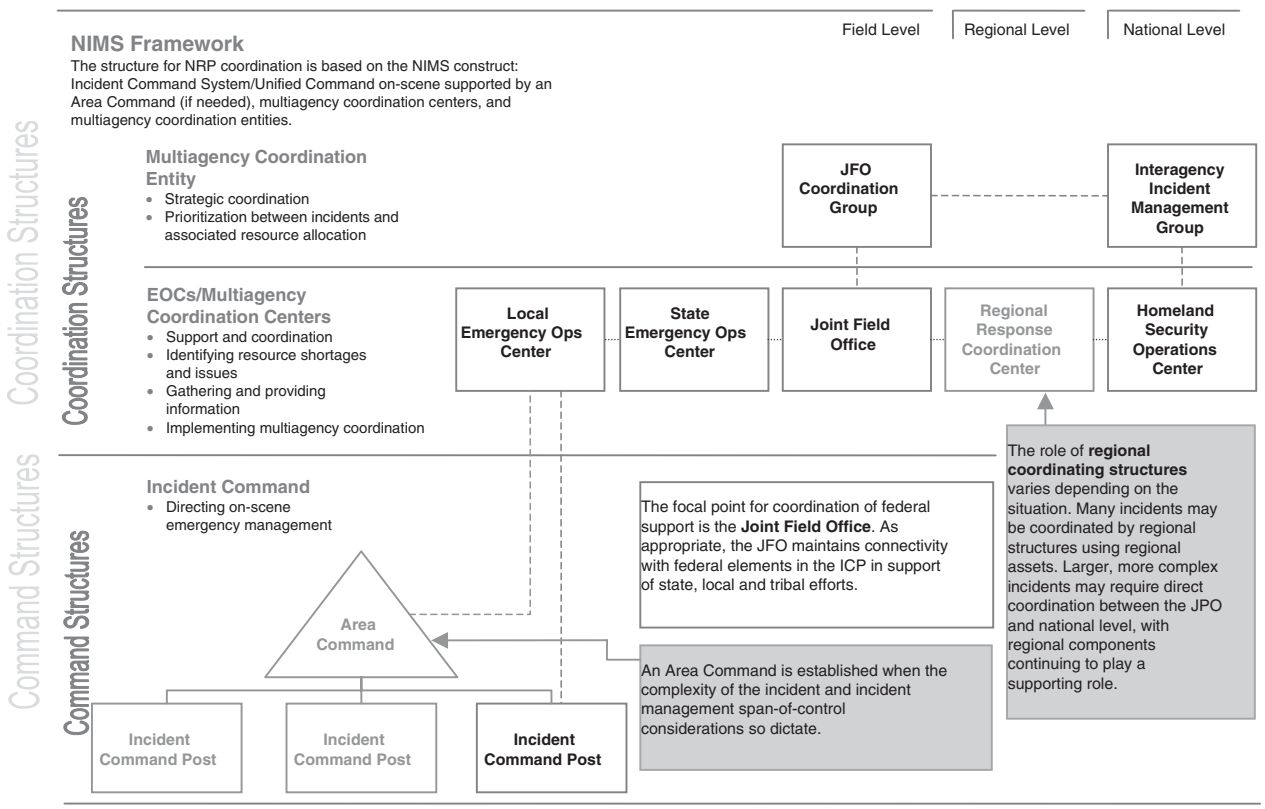


Comparison of NIMS and the NRP

NIMS	NRP
Purpose	
NIMS provides a consistent, flexible, and adjustable national framework within which government and private entities at all levels can work together to manage domestic incidents, regardless of their cause, size, location, or complexity. This flexibility applies across all phases of incident management: prevention, preparedness, response, recovery, and mitigation.	The NRP provides a core operational plan for national incident management. It establishes national-level coordinating structures, mechanisms for national-level policy, and operational coordination for domestic incident management that must be incorporated into existing federal interagency incident plans.
Components	
► **Command and Management**—incident command system (ICS), multiagency coordination centers (i.e., emergency operations centers, or EOCs), and public information ► **Preparedness**—emergency operations plans, procedures, training, and progressive exercise program ► **Resource Management**—standard resource typing (use of emergency support functions) and inventories ► **Communications/Information Management**—defined protocols and interoperable communications ► **Supporting Technologies**—dispatch/ communications, incident management, personal protective equipment, and detection equipment ► **Ongoing Management and Maintenance**—NIMS Integration Center, available at http://www.fema.gov/nims/	► **Base Plan**—concept of operations, coordinating structures, roles and responsibilities, definitions, etc. ► **Emergency Support Function Annexes**—groups capabilities and resources into functions that are most likely needed during an incident (e.g., transportation, firefighting, and mass care) ► **Support Annexes**—describes common processes and specific administrative requirements (e.g., public affairs, financial management, and worker safety & health) ► **Incident Annexes**—outlines core procedures and roles and responsibilities for specific contingencies (e.g., biological, radiological, and cyber incident, and hazmat spills) ► **Appendixes**—glossary, acronyms, authorities, and compendium of national interagency plans

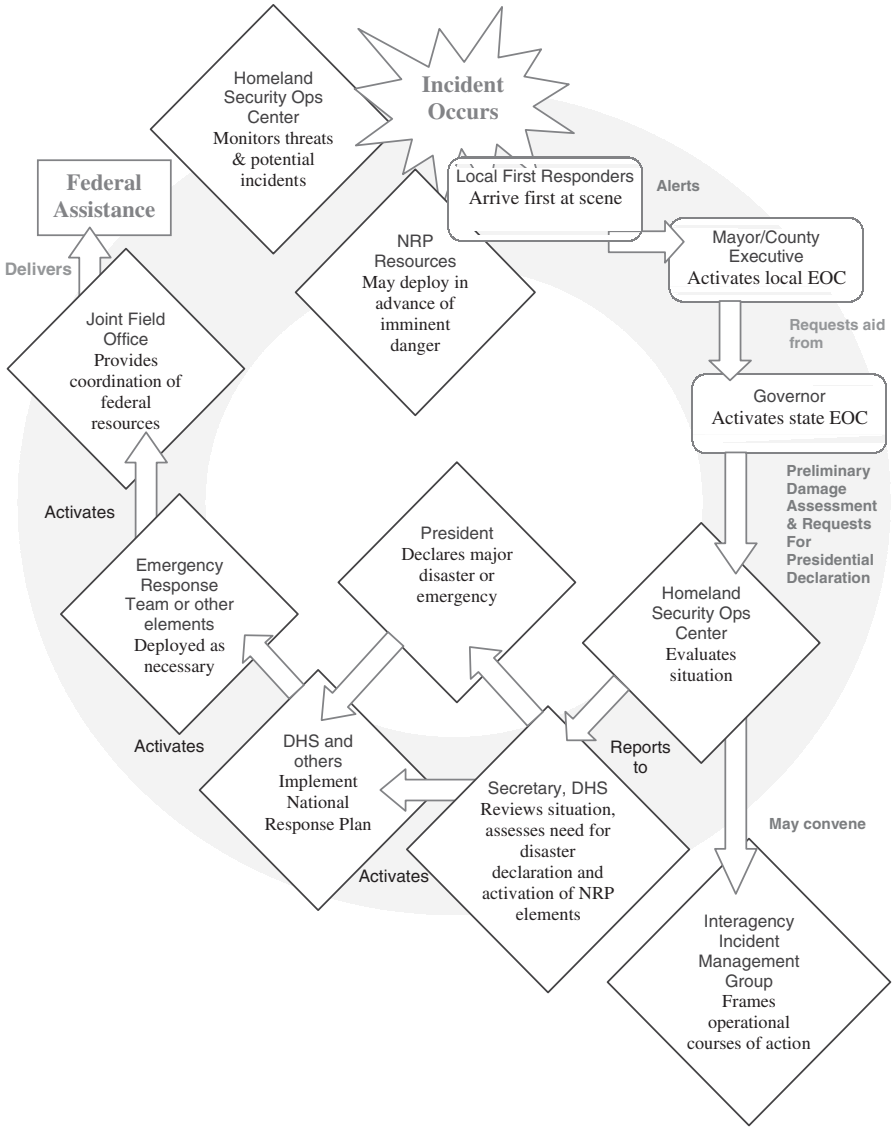
Applicability	
NIMS is applicable across all levels of government and emergency organizations, and nongovernmental and private-sector organizations. Adoption of NIMS by state and local organizations is a condition of federal preparedness assistance. National Incident Management Compliance Assessment Tool (NIMCAST) submissions can be made now. Partial compliance is required by FY 2006; full compliance is required by FY 2007.	The NRP is applicable to all federal departments and agencies that may be requested to provide assistance in actual or potential incidents of national significance that require a coordinated and effective response by an appropriate combination of federal, state, local, tribal, private-sector, and nongovernmental entities.
Command and Coordination Structure	
NIMS also provides a set of standardized organizational structures—such as the incident command system (ICS), multiagency coordination systems, and public information systems—as well as requirements for processes, procedures, and systems designed to improve interoperability among jurisdictions and disciplines in various areas, including the following: training, resource management, personnel qualification and certification, equipment certification, communications and information management, technology support, and continuous system improvement. Specific elements of NIMS command and coordination structure include: ► Command posts on-scene using the incident command system ► Incident command system/unified command ► Area command/unified area command (if needed) ► State, local, tribal, and private-sector emergency operations centers, with resources typed according to the 15 emergency support functions (ESFs) in the NRP.	The NRP organizational structure addresses site-specific incident management activities and the broader regional or national issues related to the incident, such as impacts on the rest of the country, immediate regional or national actions required to avert or prepare for potential subsequent events, and the management of multiple threats or incidents. This structure includes: ► National Incident Management System Command and Coordination Structure (command posts, single/unified/area command, and state, local, tribal and private-sector emergency operations centers) ► Joint field office (JFO), which is responsible for coordinating federal assistance and supporting incident management activities ► National Response Coordinating Center (NRCC), Regional Response Coordinating Center (RRCC), and Homeland Security Operations Center (HSOC), which serve as regional and national-level multiagency situational awareness and operational coordination centers ► Interagency Incident Management Group (IIMG), which serves as the national headquarters-level multiagency coordination entity for domestic incident management ► Homeland Security Council (HSC) and other White House organizations, which serve as the national-level multiagency coordination entities to advise and assist the President on homeland security and other policy issues.

Command and Coordinating Structure in the National Response Plan



Overview of Initial Federal Involvement under the Stafford Act

EOC = Emergency Operations Center



Emergency Support Functions in the National Response Plan

Emergency Support Function	Scope of Activities
ESF #1 - Transportation	▶ Transportation support/movement of civil population ▶ Transportation safety ▶ Restoration/recovery of transportation infrastructure ▶ Movement restrictions ▶ Damage and impact assessment
ESF #2 - Communications	▶ Coordination with telecommunication industry ▶ Restoration/repair of telecommunications infrastructure ▶ Protection, restoration, and sustainment of national cyber and information technology resources
ESF #3 - Infrastructure (Public Works and Engineering)	▶ Infrastructure protection and emergency repair ▶ Infrastructure restoration ▶ Engineering services, construction management ▶ Critical infrastructure liaison
ESF #4 - Firefighting	▶ Firefighting activities ▶ Resource support to rural and urban firefighting operations
ESF #5 - Emergency Management	▶ Coordination of incident management efforts ▶ Issuance of mission assignments ▶ Resource and human capital ▶ Incident action planning ▶ Financial management
ESF #6 - Mass Care, Housing, and Human Services	▶ Mass care ▶ Disaster housing ▶ Human services
ESF #7 - Resource Support and Logistics	▶ Resource support (facility space, office equipment and supplies, contracting services, etc.)
ESF #8 - Public Health and Medical Services	▶ Public health ▶ Medical service and mental health services ▶ Mortuary services
ESF #9 - Urban Search and Rescue	▶ Life-saving assistance ▶ Urban search and rescue
ESF #10 - Oil and Hazardous Materials Response	▶ Environmental safety and short- and long-term cleanup
ESF #11 - Agriculture and Natural Resources	▶ Nutrition assistance ▶ Animal and plant disease/pest response ▶ Food safety and security ▶ Natural/cultural resources and historic properties protection and restoration
ESF #12 - Energy	▶ Energy infrastructure assessment, repair, and restoration ▶ Energy industry utilities coordination ▶ Energy forecast
ESF #13 – Law Enforcement	▶ Facility and resource security ▶ Security planning and technical and resource assistance ▶ Public safety/security support ▶ Support for access, traffic, and crowd control
ESF #14 - Long-Term Recovery	▶ Social and economic community impact assessment ▶ Long-term community recovery assistance to states, local governments, and the private sector ▶ Mitigation analysis and program implementation
ESF #15 - External Affairs	▶ Emergency public information and protective action guidance ▶ Media and community relations ▶ Congressional and international affairs ▶ Tribal and insular affairs

Command and Coordinating Structures in the National Incident Management System

Structure	Description
ICS (Incident Command System)	The management system used to direct all operations at the incident scene. The incident commander is located at an incident command post at the incident scene.
UC (Unified Command)	A type of ICS used when there are two or more agencies with incident jurisdiction. Agencies work together through their designated incident commanders at a single incident command post to establish a common set of objectives and strategies and a common incident action plan.
Area Command (Unified Area Command)	A type of ICS used when there are two or more incidents in close proximity. Area command works directly with incident commanders. Area command becomes unified area command when incidents are multijurisdictional. Area command may be established at an EOC facility or at a location other than an incident command post.
EOC (Emergency Operating Centers)	A facility or location from which the overall direction, control, and decision making of an operational response is coordinated. EOCs are used in various ways at all levels of government and within private industry to provide coordination, direction, and control during emergencies. EOC facilities can also be used to house area command and MACS activities as determined by agency or jurisdiction policy.
MACS (Multiagency Coordination Systems)	Organizations used to coordinate resources between agencies or jurisdictions. MACS are useful for regional situations or for coordinating among federal and state agencies. MACS can be established at a jurisdictional EOC or at a separate facility.

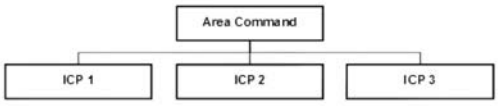
Command Structures in the National Incident Management System

Examples: Minor traffic accident, vehicle or facility fire, minor employee accident

Typically includes single jurisdiction responsibility with single agency involvement, and, depending on the type of incident, may include single jurisdiction responsibility with multi-agency involvement, where supporting agencies provide representatives to coordinate with the agency in command.

Examples: Multi-vehicle crash, hazardous materials spills, accident with fatalities and injuries

Typically includes multi-jurisdictional responsibility with multi-agency involvement, and depending on the type of incident and the responders involved, may also include single jurisdiction responsibility with multi-agency involvement.



Examples: Simultaneously occurring hazardous materials spills, acts of terrorism (including biological, radiological, chemical, and nuclear).

Typically established to oversee the management of multiple incidents that are each being handled by a separate ICS organization or to oversee the management of a very large or complex incident that has multiple incident management teams engaged. Area command is usually activated by agency administrators or public officials at the local/regional Emergency Operations Center (EOC). While co-located at the EOC, area command remains a command rather than coordination function.

ATTACHMENT 2 TRANSPORTATION EXERCISE EVALUATION GUIDE

Transportation Exercise Evaluation Guide

Task	Sub-Task	Performed By	Evaluation Criteria
I. Prevention and deterrence	1. Receive telephone threat (i.e., threat called into the transportation agency)	Transportation dispatch/management center or transportation administrative personnel and transportation supervisor	▶ Were agency procedures followed during the receipt of the call? ▶ Were the time and date of call noted? ▶ Was the call recorded? Was caller ID activated? ▶ Was the transportation agency's telephone threat checklist completed? ▶ Was information obtained regarding the location and time of the threat? ▶ Was information about the caller identified (gender, accent, vocabulary, etc.)? ▶ Did the caller provide any specific requests, directions, or demands? ▶ If so, were these noted? ▶ Was notification made to the appropriate transportation supervisor? ▶ Did the transportation supervisor take appropriate action in evaluating the report? ▶ Was notification made to law enforcement? ▶ **Performance Measure:** Time required to receive and evaluate telephone threat and then report it to law enforcement (if applicable). ▶ **Performance Measure:** Number of distinct pieces of threat information recorded in threat checklist versus total number of distinct pieces of threat information provided in telephone call. ▶ **Performance Measure:** Accuracy of distinct pieces of threat information recorded in threat checklist versus the actual distinct pieces of threat information provided in telephone call. ▶ **Performance Measure:** Percentage of agency procedure followed by the transportation supervisor in evaluating the threatening call.
	2. Receive written threat/package (i.e., letter or package sent to the transportation agency)	Transportation front-line employee or transportation dispatch/management center	▶ What criteria were used to recognize the letter/package as threatening? ▶ Were agency procedures followed during the initial handling of the letter/package? ▶ Was the letter/package evaluated using the transportation agency's checklist? Internal procedures? Other? ▶ Was notification made to the appropriate transportation supervisor? ▶ Did the transportation supervisor take appropriate action in evaluating the written threat/package? ▶ Was the letter/package opened? ▶ Was notification made to law enforcement? ▶ **Performance Measure:** Number of distinct criteria identified marking the letter/package as threatening. ▶ **Performance Measure:** Number of transportation agency employees who handled the letter/package. ▶ **Performance Measure:** Time required to notify law enforcement (if applicable). ▶ **Performance Measure:** Percentage of agency procedure followed by the transportation supervisor in evaluating the written threat/package.
	3. Identify suspicious package (i.e., package left in transportation facility, vehicle, or other location)	Transportation front-line employee, transportation supervisor, and transportation dispatch/management center	▶ How did the transportation front-line employee learn about the suspicious package? ▶ What criteria were used to identify the package as suspicious? Did these criteria comply with the agency's procedures and training? ▶ Did the transportation front-line employee immediately report the package to the transportation dispatch/management center? ▶ Did the transportation front-line employee identify all relevant information regarding the package in the report? ▶ Did the transportation dispatcher ensure that the report was complete?

Task	Sub-Task	Performed By	Evaluation Criteria
I. (continued)			▶ Was a transportation supervisor notified and dispatched? ▶ Did the transportation front-line employee or supervisor cordon off the area and direct passengers/employees/visitors/contractors away from the package? ▶ Did the transportation front-line employee/supervisor address the public in such a manner as to reduce/avoid rumors? ▶ Did the transportation supervisor evaluate the package? ▶ Did the transportation supervisor take appropriate action in evaluating the package? ▶ Did the transportation supervisor report his or her findings to the transportation dispatch/management center? ▶ Was notification made to law enforcement? ▶ **Performance Measure:** Number of distinct criteria identified that indicated that the package was suspicious. ▶ **Performance Measure:** Percentage of information that should have been reported to the transportation dispatch/management center that was actually reported. ▶ **Performance Measure:** Distance from the package used to establish the cordon points. ▶ **Performance Measure:** Time required to notify law enforcement (if applicable). ▶ **Performance Measure:** Percentage of agency procedures followed by the transportation supervisor in evaluating the suspicious package.
	4. Identify suspicious condition (i.e., detection of unusual condition, such as strange substance, odor, smoke, haze, or equipment left in a transportation facility, vehicle, or other location)	Transportation front-line employee, transportation supervisor, and transportation dispatch/management center	▶ How did the transportation front-line employee learn about the suspicious condition? ▶ What criteria were used to identify the condition as suspicious? Did these criteria comply with the agency's procedures and training? ▶ Were any injuries, symptoms, or persons potentially affected by the suspicious condition identified? ▶ Did the transportation front-line employee immediately report the condition to the transportation dispatch/management center? ▶ Did the transportation front-line employee identify all relevant information regarding the condition in the report? ▶ Did the transportation dispatcher ensure that the report was complete? ▶ Was the transportation supervisor notified and dispatched? ▶ Did the transportation front-line employee/supervisor cordon off the area and direct passengers/employees/visitors/contractors away from the condition? ▶ Did the transportation front-line employee/supervisor address the public in such a manner as to reduce/avoid rumors? ▶ Did the transportation front-line employee/supervisor touch anything relevant to the suspicious condition? ▶ Did the transportation supervisor evaluate the suspicious condition? ▶ Did the transportation supervisor take appropriate action in evaluating the suspicious condition? ▶ Did the transportation supervisor report his or her findings to the transportation dispatch/management center? ▶ Was notification made to law enforcement? ▶ **Performance Measure:** Number of distinct criteria identified that indicated the suspicious condition. ▶ **Performance Measure:** Number of people identified who came into contact with the suspicious condition. ▶ **Performance Measure:** Distance from the condition used to establish the cordon points. ▶ **Performance Measure:** Time required to notify law enforcement (if applicable). ▶ **Performance Measure:** Percentage of agency procedures followed by the

Task	Sub-Task	Performed By	Evaluation Criteria
I. (continued)			transportation supervisor in evaluating the suspicious condition.
	5. Identify Suspicious Behavior (i.e., an unauthorized person in walking through a restricted area, taking pictures, or appears to be observing activity)	Transportation Front-Line Employee, Transportation Supervisor, and Transportation Dispatch/Management Center	▶ How did the transportation front-line employee learn about the suspicious behavior? ▶ What criteria were used by the transportation front-line employee to confirm the behavior as suspicious? Did these criteria comply with the agency's procedures and training? ▶ Did the transportation front-line employee confront the person exhibiting suspicious behavior following agency procedures (i.e., in a pleasant, but authoritative way, ask what the unauthorized person is doing, if he or she is aware of the restricted area, if the transportation front-line employee can be of any assistance, etc.)? ▶ Did the transportation front-line employee immediately report the suspicious behavior to the transportation dispatch/management center? ▶ Did the transportation front-line employee identify all relevant information regarding the behavior in the report? ▶ Did the transportation dispatcher ensure that the report was complete? ▶ Was a transportation supervisor notified and dispatched? ▶ Was law enforcement notified? ▶ **Performance Measure:** Number of distinct criteria identified that indicated suspicious behavior. ▶ **Performance Measure:** Percentage of agency procedures followed in confronting unauthorized person. ▶ **Performance Measure:** Time required to notify law enforcement (if applicable).
	6. Receive threat warnings From local/ regional/state/federal agencies	Transportation dispatch/management center	▶ How was the threat report received? ▶ Was additional information requested? ▶ Were details of the report "repeated back" for confirmation? ▶ Was contact information obtained for follow-up communications? ▶ Were internal notifications made? ▶ Was a follow-up report received? ▶ Was the transportation agency emergency operations center activated? ▶ **Performance Measure:** Percentage of information recorded from warning and relayed to transportation senior managers versus what was actually provided. ▶ **Performance Measure:** Percentage of agency procedure followed in receiving threat warning and notifying transportation management. ▶ **Performance Measure:** Time required to activate the transportation agency emergency operations center.
	7. Receive weather warning from the National Weather Service, a road-weather monitoring system, or another weather monitoring system	Transportation dispatch/management center	▶ How was the severe weather warning report received? ▶ Was appropriate monitoring being performed regarding National Weather Service, road-weather monitoring system, or other weather monitoring system? ▶ Was additional information requested from transportation agency personnel in the field? ▶ Were internal notifications made? ▶ Were follow-up reports received from the field? ▶ Was the transportation agency emergency operations center activated? ▶ **Performance Measure:** Percentage of agency procedures followed in receiving warning/monitoring weather conditions.
	8. Activate protocols for heightened Homeland Security Advisory System (HSAS) threat levels	Transportation dispatch/management center or transportation agency emergency operations center	▶ Was notification received and verified regarding activation of heightened HSAS threat level? ▶ Was notification made to senior transportation management? ▶ Were HSAS heightened threat protocols activated? ▶ Were instructions conveyed to transportation supervisor? ▶ Were extended staffing plans activated?

Task	Sub-Task	Performed By	Evaluation Criteria
I. (continued)			▶ Were resources predeployed in the transportation agency's service area? ▶ Were follow-up reports received from the field? ▶ Was the transportation agency emergency operations center activated? ▶ Were points of contact established with local responders and the local emergency operations center (if activated)? ▶ **Performance Measure:** Time required from notification of heightened HSAS threat level to activation of heightened HSAS threat protocols. ▶ **Performance Measure:** Percentage of activities to be performed in the heightened HSAS threat protocols that were in place 24 hours after notification. ▶ **Performance Measure:** Number of contacts established with local responders and local emergency operations center (if activated).
	9. Activate protocols for severe weather readiness	Transportation dispatch/management center or transportation agency emergency operations center	▶ Was notification received and verified regarding the impending severe weather emergency? ▶ Was notification made to senior transportation management? ▶ Were severe weather protocols activated? ▶ Were instructions conveyed to transportation supervisor? ▶ Were extended staffing plans activated? ▶ Were resources predeployed in the transportation agency's service area? ▶ Were follow-up reports received from the field? ▶ Was the transportation agency emergency operations center activated? ▶ Were points of contact established with local responders and the local emergency operations center (if activated)? ▶ **Performance Measure:** Time required from notification of severe weather emergency to activation of transportation severe weather protocols. ▶ **Performance Measure:** Percentage of activities to be performed in the transportation agency's severe weather protocols that were in place 2 hours after notification.
II. Emergency assessment	1. Receive report from field	Transportation dispatch/management center	▶ Were agency procedures followed during the receipt of the call? ▶ Was the call recorded? ▶ Were the time and date of call noted? ▶ Did the transportation dispatcher ensure a complete report, including location of incident; nearest point of access; involved transportation vehicles, facilities, and employees; number of injuries/fatalities; scene hazards; requested resources; and any other relevant information? ▶ Did the transportation dispatcher provide any information to the transportation front-line employee making the report? ▶ **Performance Measure:** Time required to receive report. ▶ **Performance Measure:** Percentage of information provided by or requested from transportation front-line employee versus what should have been provided or requested based on the transportation agency's procedure.
	2. Verify report from field (if applicable)	Transportation dispatch/management center	▶ Were other transportation sources consulted (e.g., other incoming calls, public cell phone calls, and other transportation agency personnel in the vicinity) to verify the report? ▶ Were reports obtained from transportation intelligent transportation systems (ITS), alarm/access control systems, closed-circuit television (CCTV) systems, or other technology? ▶ **Performance Measure:** Number of other transportation sources consulted. ▶ **Performance Measure:** Number of transportation technology systems consulted.

Task	Sub-Task	Performed By	Evaluation Criteria
II. (continued)	3. Dispatch transportation supervisor and requested transportation agency resources	Transportation dispatch/management center	▶ Was notification made to the appropriate transportation supervisor? ▶ Was information received from field report accurately transmitted to the transportation supervisor? ▶ Were requested resources dispatched to the field? ▶ Was a follow-up report requested from the field? ▶ **Performance Measure:** Percentage of information conveyed to transportation supervisor versus what was actually collected from the field. ▶ **Performance Measure:** Percentage of requested resources that were dispatched to the field.
	4. Notify local emergency responders	Transportation dispatch/management center	▶ Was notification made to appropriate emergency responders? ▶ Was information received from field reports accurately transmitted to the emergency responders? ▶ Were directions provided to emergency responders? ▶ Was nearest point of access provided to emergency responders? ▶ **Performance Measure:** Time from initial field report to notification of emergency responders. ▶ **Performance Measure:** Distance (if any) between the reported location of the incident and the actual location. ▶ **Performance Measure:** Variance of the reported type of incident (accident, fire, etc.) and the actual incident. ▶ **Performance Measure:** Accuracy of directions and point of access provided to emergency responders.
	5. Notify transportation agency emergency operations center staff	Transportation dispatch/management center	▶ Was notification made to the members of the transportation agency emergency operations center? ▶ Was information received from field report accurately transmitted to the members of the transportation agency emergency operations center? ▶ Were protocols put in place regarding communication with members of the transportation emergency operations team? ▶ **Performance Measure:** Time from initial field report to notification of the members of the transportation agency emergency operations center. ▶ **Performance Measure:** Accuracy of information provided to the members of the transportation agency emergency operations center.
	6. Notify local emergency operations center (if activated)	Transportation dispatch/management center	▶ Was notification made to the local emergency operations center (if activated)? ▶ Was a designated point of contact established? ▶ Was a transportation representative dispatched to the local emergency operations center? ▶ **Performance Measure:** Time from initial field report to notification of the members of the local emergency operations center. ▶ **Performance Measure:** Accuracy of information provided to the local emergency operations center.
	7. Receive follow-up report from field	Transportation dispatch/management center	▶ Was a specific transportation dispatcher assigned to communicate with the field? ▶ Was information obtained regarding the status of the incident in the field and any changes regarding the incident scene? ▶ Were the dispatch of the transportation supervisor and the requested resources verified? ▶ Was the dispatch of the emergency responders verified? ▶ Was a transportation front-line employee assigned to meet the supervisor/responders at the scene? ▶ Were specific actions verified regarding the transportation system (e.g., need to close/limit access to a specific location, or need to shut down power to third rail or overhead catenary system)?

Task	Sub-Task	Performed By	Evaluation Criteria
II. (continued)			▶ Were communication channels and protocols verified? ▶ Were any instructions or other information provided by the transportation dispatcher? ▶ **Performance Measure:** Percentage compliance with agency procedures for allocation of resources within the transportation dispatch/management center to manage an emergency incident (i.e., designated dispatcher for communicating with field, designated dispatcher from remainder of system, and designated support for managing field requests). ▶ **Performance Measure:** Percentage compliance with transportation agency procedures for designating communication channels and verifying information and requests.
	8. Provide follow-up information to local responders	Transportation dispatch/management center	▶ Were changes in conditions reported from the incident scene relayed to emergency responders? ▶ Was other information on the status of the transportation system relayed to emergency responders? ▶ Were technical difficulties addressed regarding communication with transportation agency personnel in the field? ▶ **Performance Measure:** Accuracy of information provided to emergency responders versus the updated information provided from the field. ▶ **Performance Measure:** Accuracy of information provided to emergency responders versus the actual status of the transportation system.
	9. Activate transportation agency emergency operations center	Transportation dispatch/management center	▶ Was the transportation agency emergency operations center activated? ▶ Were resources requested to support the activation of the transportation agency emergency operations center? ▶ Were communication protocols put in place to establish a link to the transportation agency emergency operations center? ▶ Was notification made to the local emergency operations center (if activated) regarding the activation of the transportation agency emergency operations center? ▶ **Performance Measure:** Percentage of members of the transportation agency emergency operations center notified of its activation. ▶ **Performance Measure:** Time required to establish communication with the transportation agency emergency operations center.
III. Emergency management	1. Mobilize transportation agency emergency operations center staff	Transportation agency emergency operations center	▶ Did the transportation dispatch/management center initiate alert/recall procedures for the transportation agency emergency operations center? ▶ Was the recall list current? ▶ Was a determination made whether partial or full transportation agency emergency operations center staffing was necessary? ▶ Did the appropriate authority authorize partial/full activation of the transportation agency emergency operations center? ▶ Who authorized the partial/full activation (name and title)? ▶ Were directions/recommended routes provided to personnel to ensure that the personnel reached the transportation agency emergency operations center as quickly as possibly? ▶ Was the transportation executive director/general manager or designated alternate notified of the incident in a timely manner? ▶ How was this notification made? ▶ Did the appropriate transportation agency personnel respond to the recall? ▶ **Performance Measure:** Availability and accuracy of contract information used to activate transportation emergency operations center. ▶ **Performance Measure:** Percentage of personnel in the transportation agency emergency operations center who responded appropriately to the notification call.

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)	2. Expand and operate the transportation agency emergency operations center	Transportation agency emergency operations center	▶ Was the facility housing the transportation agency emergency operations center effectively upgraded from current to emergency status? ▶ Were appropriate procedures followed for removing equipment from storage locations, ensuring that equipment was operating properly, preparing the facility for emergency use, and reviewing plans and procedures appropriate to the incident? ▶ Was the transportation agency emergency operations center communications system confirmed as operational? Were backup and alternate communications systems also identified and confirmed as operational? ▶ Were established communications adequate to maintain an uninterrupted capability for the duration of the response? ▶ Were transportation emergency plans, procedures, contact information, and other materials available at the transportation agency emergency operations center? ▶ Was a reliable communications link established among the transportation agency emergency operations center, the transportation incident commander in the field, and the transportation representative assigned to the local emergency operations center? ▶ Was a reliable communications link established between the transportation agency emergency operations center and the local emergency operations center? ▶ Was an effective communications protocol established between the transportation agency emergency operations center and the transportation dispatch/management center? ▶ Was there a procedure in place to ensure accountability for personnel once they reach the transportation agency emergency operations center (e.g., sign-in)? ▶ Was there a procedure in place to ensure that briefing occurred for personnel once they were signed in to the transportation agency emergency operations center? ▶ Did the briefings include the status of the incident and current response activities? ▶ Was there a procedure in place to ensure that follow-up briefings occurred at regular intervals thereafter? ▶ Was the transportation agency emergency operations center established in a safe and secure area? ▶ What security measures were used? ▶ Was a procedure established for record keeping regarding the activities performed by the transportation agency emergency operations center (e.g., event log)? ▶ Were schedules/staffing plans developed to plan for uninterrupted 24-hour operation to cover all shifts with adequate staff? ▶ Were other transportation agency personnel notified that the transportation agency emergency operations center had been activated? ▶ Was the activation and response coordinated and efficient? ▶ Were arriving staff appropriately briefed upon their arrival? ▶ **Performance Measure:** Time required to staff up the transportation agency emergency operations center to partial/full status. ▶ **Performance Measure:** Availability of all required transportation emergency plans, procedures, contact information, and so forth in the transportation agency emergency operations center. ▶ **Performance Measure:** Percentage of personnel assigned to the transportation agency emergency operations center to complete sign-in list. ▶ **Performance Measure:** Number of briefings performed for personnel assigned to the transportation agency emergency operations center.
	3. Establish leadership and incident management organization in the	Transportation agency emergency operations center	▶ Did the executive director/general manager or the designated alternate become the emergency management director and assume overall control of the transportation agency emergency operations center?

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)	transportation agency emergency operations center		▶ What was the name and title of the person who became the emergency management director? ▶ What was the overall level of control maintained by the emergency management director in the transportation agency emergency operations center? ▶ Did the emergency management director effectively implement the agency's emergency operations plan? ▶ Was the transportation agency emergency operations center organized by functions according to the transportation emergency operations plan? ▶ What were the functional areas activated in the transportation agency emergency operations center? ▶ How did the emergency management director use available resources and staff positions? Were resources appropriately used to maximize efficiency and effective response operations? Were staff sufficiently trained and briefed to accomplish their duties? ▶ Did the emergency management director understand all functions to be carried out by different staff? ▶ Did the emergency management director have authority to use necessary resources to respond to the emergency and coordinate additional elements? ▶ Did the emergency management director collaborate effectively with the transportation representative sent to serve as liaison at the local emergency operations center? ▶ Who had decision-making authority regarding the commitment of transportation agency resources to the local emergency operations center – the emergency management director or the transportation liaison at the local emergency operations center? ▶ How did the emergency management director collaborate with the transportation incident commander? ▶ **Performance Measure:** Time required for the emergency management director to take control of the transportation agency emergency operations center. ▶ **Performance Measure:** Number of functional units established to support the organization of the transportation agency emergency operations center. ▶ **Performance Measure:** List of resources provided by the transportation agency emergency operations center to address the incident response.
	4. Notify and follow up with government agencies and officials	Transportation agency emergency operations center	▶ Were initial and follow-up notifications to local (adjacent and nonadjacent), state, and federal response and law enforcement agencies made as appropriate to the transportation agency's emergency operations plan? ▶ Were local government officials notified of significant changes to the transportation situation prior to distributing press releases concerning the incident? ▶ What criteria were used to direct the notification of local, county, state, and higher offices? ▶ Was there a coordinated response in sharing of information with local, state, and federal agencies and officials? ▶ Were the roles and functions of the transportation agency in working with each level of government recognized, understood, and adequately performed? ▶ Were all potentially impacted jurisdictions and transportation agencies considered and included in coordination? ▶ **Performance Measure:** Number of additional notifications authorized/made by the transportation agency emergency operations center. ▶ **Performance Measure:** Number of additional follow-up reports authorized/made by the transportation agency emergency operations center.

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)	5. Direct and control transportation response operations	Transportation agency emergency operations center	▶ Did the transportation agency emergency operations center assist the transportation incident commander and staff in supporting field response and developing/implementing action plans and alternate plans? ▶ Did the transportation agency emergency operations center monitor communications at the transportation incident command post and receive reports regarding the status of response activities and site mitigation operations? ▶ Did the transportation agency emergency operations center make recommendations to the transportation incident commander and staff regarding adjustments to these operations based on the situation presented? ▶ Did the transportation agency emergency operations center direct the dispatch of specialized transportation agency resources if such assets were required to support site operations? ▶ Did the transportation agency emergency operations center assist the transportation incident commander and staff in developing and implementing mitigation plans? ▶ Were transportation agency emergency operations center operations consistent with plans, procedures, and protocols? ▶ Were these plans sufficient for the emergency incident? ▶ Did the emergency management director have authority to use necessary resources to respond to the emergency and coordinate additional elements? ▶ Did the transportation agency emergency operations center, in consultation with the transportation incident commander, analyze information to formulate mitigation and corrective actions? ▶ Did transportation agency emergency operations center personnel maintain an account of incident events? How was this done? ▶ Did the transportation liaison to the local emergency operations center collaborate effectively with the transportation agency emergency operations center? ▶ Did the transportation agency emergency operations center maintain personnel accountability throughout the incident? How was this accountability maintained? ▶ Did the transportation agency emergency operations center make progress reports to all agencies when necessary? How often and by whom? ▶ Was the response to the incident unified and integrated? Did the agencies involved in this exercise demonstrate good teamwork and coordination? ▶ Were there written agreements in place between appropriate agencies? ▶ Were functional areas of responsibility assigned for direction/control and coordination? ▶ Were mutual aid plans implemented? ▶ Was information/data coordinated and communicated among response elements? ▶ Was communication between the transportation agency emergency operations center and other agencies adequate? On site, face to face? On site, radio? On site, agency to agency? ▶ **Performance Measure:** Number of activities performed by the transportation agency emergency operations center that were not addressed in the transportation agency's emergency plans and procedures. ▶ **Performance Measure:** Percentage of activities performed by the transportation agency emergency operations center that are documented in the log established for the emergency incident. ▶ **Performance Measure:** Number of memoranda of understanding activated by the transportation agency emergency operations center. ▶ **Performance Measure:** Number of unanswered/unreceived communications or calls.
	6. Support or direct activation of traffic and access control points	Transportation agency emergency operations center, transportation	▶ Did the transportation agency emergency operations center work with the transportation dispatch/management center, the local emergency management center, and the transportation incident commander to review selected evacuation routes? ▶ Were situations identified that could cause traffic queues to form along these routes

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)		dispatch/management center, and transportation incident commander and command post	(work zones, debris, staging areas, etc.)? ▶ Were the selected evacuation routes modified to mitigate the effects of these conditions? ▶ Were ad hoc traffic control points identified to support the selected evacuation routes? ▶ Was a determination made whether these locations for access control points should be staffed? ▶ Were traffic and access control crews dispatched with appropriate vehicles, equipment, and materials to specified control points? ▶ Was direction provided regarding the changing of traffic lights at locations to facilitate traffic movement (e.g., arterials to highways and downtown traffic signal timing patterns)? ▶ Were highway department crews dispatched to clear evacuation routes of snow or debris as required? ▶ Were tow trucks dispatched to locations for handling disabled vehicles and dispensing emergency gasoline supplies? ▶ Were traffic control point crews briefed on modifications to evacuation routes? ▶ Were these crews provided with appropriate maps, diagrams, and implementing instructions? ▶ Was contact made with appropriate government organizations or businesses to block access to the predicted hazard area by rail, water, and air traffic? ▶ Were traffic and access control activities coordinated with the adjacent jurisdictions? ▶ Were traffic control points and access control points repositioned to address changing conditions once the evacuation was underway? ▶ Were additional resources dispatched to address changing conditions/unanticipated events? ▶ Were personnel rosters reviewed to ensure continuous, 24-hour operation? ▶ Were traffic and access control personnel assigned to tasks and shifts where they were most needed? ▶ Were provisions in place to provide a transition or situation briefing to later shift personnel before they began work? ▶ How well did the transportation agency emergency operations center communicate with traffic and access control crews? ▶ Which departments were contacted, and what responsibilities did each perform? ▶ How were traffic control point crews briefed? ▶ What information was provided? Was it sufficient? ▶ Which agencies were contacted to prevent transport access to the hazard area? ▶ What actions did these agencies take to prevent access? ▶ What other jurisdictions were contacted? How was this decision made? How often were these agencies provided updates? ▶ During the incident, what information was provided from the transportation incident command post? ▶ During the incident, what information was provided from the transportation liaison at the local emergency operation center? ▶ **Performance Measure:** Number of variations required from preselected evacuation routes. ▶ **Performance Measure:** Number of times that traffic control points and access control points were repositioned. ▶ **Performance Measure:** Number of communications with local emergency operations center regarding the evaluation plan and conditions. ▶ **Performance Measure:** Number of transportation agency personnel deployed to

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			support evacuation. ▶ **Performance Measure:** Transportation equipment deployed to support evacuation. ▶ **Performance Measure:** Number of notifications made to adjacent jurisdictions regarding evacuation.
	7. Support the protection of the population in the predicted hazard area	Transportation agency emergency operations center, transportation dispatch/management center, and transportation incident commander and command post	▶ Were transportation plans and procedures reviewed for supporting shelter-in-place and evacuation responses to hazardous materials and weapons of mass destruction scenarios? ▶ Did the transportation agency emergency operations center obtain information from the local emergency operations center regarding the location and boundaries of the predicted hazard area? ▶ Was the transportation agency emergency operations center able to obtain status reports regarding the location of transportation agency personnel, resources, and facilities in and near the predicated hazard area? ▶ Did the local emergency operations center collaborate with the transportation agency emergency operations center with regard to any of the following: availability and condition of evacuation routes; availability of transportation assets; warning information given to the population in the predicted hazard area; preselected traffic control points, assembly points, and evacuation routes; situations at variance with assumptions in plans and procedures; and the population's familiarity with evacuation plans and procedures? ▶ Did the local emergency operations center request to use transportation facilities and/or vehicles to support shelter-in-place (transportation stations, nonrevenue facilities, and/or vehicles) within the predicated hazard area? ▶ Did the local emergency operations center request to use transportation facilities and/or vehicles to support evacuation (transportation stations, nonrevenue facilities, and/or vehicles) from the predicated hazard area? ▶ How were requests regarding the use of these resources conveyed to the transportation agency emergency operations center? ▶ How were decisions made regarding the use of these requested resources? ▶ Were transportation agency personnel, public information resources, and/or public address resources used to alert all/some of the population inside the predicted hazard area regarding the need for shelter-in-place? ▶ Were transportation agency personnel, public information resources, and/or public address resources used to alert all/some of the population inside the predicted hazard area regarding the need for evacuation? ▶ Were transportation agency personnel, public information resources, and/or public address resources used to provide instructions to some/all of the population within the predicted hazard area? ▶ Did the local emergency operations center collaborate with the transportation agency emergency operations center to identify evacuation routes and the provision of vehicles and personnel to support evacuation? ▶ Did the transportation agency emergency operations center receive status reports from the transportation incident commander regarding the transportation elements of the response effort for the population in the predicted hazard area? ▶ Did the transportation agency emergency operations center receive status reports from the local emergency operations center regarding the transportation elements of the response effort for the population in the predicted hazard area? ▶ Did the transportation agency emergency operations center and the transportation dispatch/management center dispatch and coordinate additional resources to support the shelter-in-place and/or evacuation of the population within the predicted hazard

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			area? ▶ Did the local emergency operations center notify the transportation operations center regarding its determination of the appropriate time for the sheltered population to leave the shelters and begin subsequent evacuation? ▶ During the incident, what information was provided from the transportation incident command post? ▶ During the incident, what information was provided from the transportation liaison at the local emergency operations center? ▶ **Performance Measure:** Time required between transportation notification of event and the communication to the transportation agency emergency operations center of the location and boundaries of the predicted hazard area. ▶ **Performance Measure:** Time required to determine the status of transportation agency personnel in and near the predicted hazard area. ▶ **Performance Measure:** Number of transportation agency resources used to support shelter-in-place within the predicted hazard area. ▶ **Performance Measure:** Number of transportation agency resources used to support the communication of information/instructions to some/all of the population in the predicted hazard area. ▶ **Performance Measure:** Number of transportation agency resources used to support evacuation from the predicted hazard area to a safe location. ▶ **Performance Measure:** Number of communications/calls between the transportation agency emergency operations center and the local emergency operations center regarding the emergency incident.
	8. Support protective actions for schools, day care centers, people with disabilities, transit-dependent people, incarcerated people, and other special populations	Transportation agency emergency operations center, transportation dispatch/management center, and transportation incident command post	▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to identify schools, day care centers, and other special-population facilities? ▶ Did the transportation agency emergency operations center support/make contact with schools, day care centers, and other special-population facilities to inform them of the protective action to be implemented for their specific situation and to coordinate the transportation elements of the response? ▶ Did the local emergency operations center collaborate with the transportation agency emergency operations center to identify resource requests to obtain needed transportation support? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to obtain special information/instructions to be provided to transportation agency personnel? ▶ Did the transportation agency emergency operations center, working with the transportation dispatch/management center and the transportation command post, stage transportation assets, providing briefings to drivers on the hazard area, routes to follow, emergency procedures, pick-up points, and final destinations? ▶ Did the transportation agency emergency operations center collaborate with traffic control personnel to expedite movement of transportation assets to and from affected facilities? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding the identification and notification of host schools, day care facilities, or other facilities and reception centers to prepare to receive evacuees? ▶ Did the transportation agency emergency operations center coordinate drop-off points with the host schools, day care facilities, or other facilities and reception centers that will be receiving evacuees?

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			▶ If, instead of evacuation, affected facilities were directed to shelter-in-place, was the transportation agency emergency operations center notified? ▶ Were transportation agency resources requested to support shelter-in-place? ▶ Did the local emergency operations center promptly communicate changes in directed protective actions (e.g., from shelter-in-place to evacuation) to the transportation agency emergency operations center? ▶ Did the local emergency operations center collaborate with the transportation agency emergency operations center regarding the information to be provided to caretakers and the public at large regarding protective actions taken at individual affected facilities, the location of host facilities, and procedures for reuniting with their family members? ▶ During the incident, what information was provided from the transportation incident command post? ▶ During the incident, what information was provided from the transportation liaison at the local emergency operations center? ▶ **Performance Measure:** Number of facilities in the predicted hazard area supported by the transportation agency. ▶ **Performance Measure:** Number of calls made to facilities in the predicted hazard area to coordinate transportation. ▶ **Performance Measure:** Number of calls made between the transportation agency emergency operations center and the local emergency operations center regarding transportation for facilities in the predicted hazard area. ▶ **Performance Measure:** Number of transportation agency resources deployed to support the movement of the populations in the predicted hazard area to host facilities.
	9. Support the distribution of supplies and equipment	Transportation agency emergency operations center, transportation dispatch/management center, and transportation incident command post	▶ Did the transportation agency have existing plans for coordinating the use of transportation agency resources to support the movement and distribution of emergency equipment and supplies and medical equipment and supplies? ▶ Did the transportation agency have a memorandum of understanding with the local jurisdiction regarding the transportation of medical prophylaxis? ▶ Were plans/procedures/memoranda of understanding activated by the local jurisdictions, the local emergency operations center, or some other means? ▶ Were appropriate procedures in place to coordinate transportation needs and capabilities with the location, acquisition, distribution, and accounting of services, resources, materials, and facilities to support the response? ▶ Was the jurisdiction's resource allocation plan applied appropriately? ▶ Did the transportation agency emergency operations center and the transportation agency adequately support this plan? ▶ How were equipment/supply priorities established? ▶ How were transportation capabilities and resources prioritized to address equipment/supply priorities? ▶ How was the usage of transportation equipment/resources tracked? ▶ What information was provided and by whom? ▶ During the incident, what actions were taken by the transportation incident command post to coordinate the transportation of equipment and supplies at the incident site? ▶ During the incident, what actions were taken by the transportation liaison at the local emergency operations center to coordinate the transportation of equipment and supplies? ▶ During the incident, what activities were taken by the transportation dispatch/management center to coordinate the transportation of equipment and supplies? ▶ During the incident, what activities were taken by the transportation agency emergency

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			operations center to coordinate the transportation of equipment and supplies? ▶ **Performance Measure:** List of transportation agency resources provided by the transportation agency. ▶ **Performance Measure:** List of transportation agency resources provided through the activation of mutual aid agreements. ▶ **Performance Measure:** Percentage of transportation agency resources deployed that were adequately tracked in the transportation agency's tracking system. ▶ **Performance Measure:** Percentage of actions actually performed that conformed to existing memoranda of understanding/emergency plans and procedures.
	10. Request and coordinate additional response support	Transportation agency emergency operations center, transportation dispatch/management center, and transportation incident command post	▶ Did the transportation incident command post provide the transportation agency emergency operations center with information about the adequacy and usage of transportation agency resources at the scene? ▶ How often were updates provided? ▶ How were transportation agency resources tracked at the incident command post? ▶ How were other transportation agency resources tracked that were used to fulfill additional requests from the local emergency operations center? ▶ Did the transportation agency emergency operations center have access to an inventory of available transportation agency resources? ▶ Did the transportation agency emergency operations center assess the inventory of available transportation agency resources against the projected usage based on reports provided by the transportation incident command post? ▶ Did the transportation agency emergency operations center activate memoranda of understanding with the other transportation agencies regarding the need for additional transportation agency resources? ▶ If so, who was contacted? How was new equipment tracked? ▶ How were priorities for distributing additional transportation equipment made? ▶ **Performance Measure:** List of transportation agency resources provided by the transportation agency ▶ **Performance Measure:** List of transportation agency resources provided through the activation of mutual aid agreements. ▶ **Performance Measure:** Percentage of transportation agency resources deployed that were adequately tracked in the transportation agency's tracking system. ▶ **Performance Measure:** Percentage of actions actually performed that conformed to existing memoranda of understanding/emergency plans and procedures.
	11. Direct and control critical infrastructure mitigation	Transportation agency emergency operations center, transportation dispatch/management center, and transportation incident command post	▶ Did the transportation agency emergency operations center obtain a systemwide status report regarding the capabilities of the transportation system? ▶ Did the transportation agency emergency operations center authorize damage assessments/inspections for facilities where warranted by field reports? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding priorities to clear roads, repair damaged water/sewer systems, and coordinate the provision of temporary, alternate, or interim sources of emergency power and water/sewer services? ▶ Did the transportation agency emergency operations center collaborate with local responders to ensure the proper credentialing of transportation agency personnel supporting damage assessment/emergency repair? ▶ Did the transportation agency emergency operations center collaborate with local responders, particularly law enforcement, to identify any issues associated with the preservation of crime scenes or evidence prior to initiating activities? ▶ Did the transportation agency emergency operations center authorize the use of its personnel or equipment resources to support communitywide engineering/damage

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			assessment activities? ▶ Did the transportation agency emergency operations center authorize resources to support communitywide debris removal? ▶ Did the transportation agency use special emergency procurement authorities to address damaged infrastructure? ▶ Did the local emergency operations center request the use of transportation contractors/materials/services procured through emergency provisions? ▶ Was the transportation agency emergency operations center able to effectively allocate existing and available resources to support damage assessment and emergency repair? ▶ Was the transportation agency emergency operations center able to request additional resources as needed? ▶ Was the transportation agency emergency operations center able to accurately account for costs associated with response? ▶ Did the transportation agency emergency operations center effectively authorize activity to begin damage assessment for recovery? ▶ Was the transportation agency emergency operations center able to begin to address issues associated with contaminated facilities, vehicles, and equipment? ▶ Were special safety issues associated with contaminated facilities, vehicles, and equipment adequately conveyed to transportation workers and contractors? ▶ Did transportation agency personnel arrive to conduct damage assessments/emergency repairs in a timely manner? Were appropriate equipment/resources brought on scene? ▶ How did the transportation agency emergency operations center collaborate with the local emergency operations center, other transportation providers, public works and utilities, and the private sector to coordinate damage assessment and emergency repair? ▶ What types of resources did the transportation agency provide to support public works, utilities, water and sewer services, and private-sector companies? ▶ What types of resources did the transportation agency request from public works, utilities, water and sewer services, and private-sector companies? ▶ Did transportation agency personnel conducting damage assessment and emergency repair activities recognize the capability and limitations of their equipment? ▶ Was debris removal conducted appropriately and safely? ▶ Were precautions, safeguards, or any additional coordination implemented to protect transportation agency personnel from harm? ▶ Was damage assessment conducted according to standard procedures? ▶ Was a safety supervisor assigned? ▶ What plans and procedures were in place to ensure worker safety? ▶ **Performance Measure:** Time required to conduct systemwide transportation status assessment. ▶ **Performance Measure:** Number of teams dispatched to perform damage assessment, debris removal, and emergency repair. ▶ **Performance Measure:** List of resources provided by the transportation agency to support communitywide damage assessment, debris removal, and emergency repair. ▶ **Performance Measure:** List of resources requested from other agencies to support transportation damage assessment, debris removal, and emergency repair. ▶ **Performance Measure:** Time required to activate emergency procurement authority. ▶ **Performance Measure:** Number of safety inspectors assigned to manage worker safety issues. ▶ **Performance Measure:** Number of safety briefings conducted.

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)	12. Direct and control public information activities and provide emergency information to the public and the media	Transportation agency emergency operations center	▶ Does the transportation agency have a crisis communications plan or other internal plan for dealing with public information and media requests during emergencies? ▶ Did the transportation agency emergency operations center collaborate with the transportation incident commander regarding the role of the incident public information officer in receiving and providing transportation information to the media? ▶ Did the transportation agency emergency operations center review information about the incident and collaborate with the local emergency operations center regarding information to be released to the public to address the transportation requirements of the event? ▶ Did the transportation agency emergency operations center authorize the preparation of media releases to provide the public with updated or new emergency information regarding transportation options? ▶ Did the transportation agency emergency operations center coordinate the content of the media releases with the local emergency operations center prior to dissemination? ▶ Did the transportation agency emergency operations center disseminate media releases according to plans and procedures? ▶ Did the transportation agency emergency operations center send copies of all media releases via fax or e-mail to the local emergency operations center and to adjacent jurisdictions and others as appropriate? ▶ Did the transportation agency emergency operations center ensure that spokespersons from the transportation agency provided the media with briefings on significant events in a coordinated, complete, accurate, and timely manner? ▶ Did the transportation agency emergency operations center ensure that media reports were monitored for accuracy to identify items that may cause a misunderstanding of emergency instructions to the public or that misrepresent the response? ▶ Did the transportation agency emergency operations center reply to media inquiries in a timely manner with coordinated, authorized information that was accurate, clear, and complete? ▶ Did the transportation agency emergency operations center maintain a log of all media inquiries? ▶ How were updates to transportation intelligent transportation systems (ITS) technology and websites prepared and reviewed to ensure that information released was consistent with guidelines from the local incident public information officer, the local emergency operations center, and the joint information center (if applicable)? ▶ How did the transportation agency emergency operations center collaborate with the other agencies involved to prepare news releases for dissemination and/or to conduct press conferences for the local media? ▶ What actions were taken within the transportation dispatch/management center to handle public inquiries? ▶ What procedures were used to ensure that essential information regarding the transportation aspects of the emergency was provided to the incident public information officer? ▶ Did the transportation incident commander participate in the development of a media plan for the incident? Was it implemented in an effective and timely manner? ▶ How did the media plan use transportation and traffic media outlets to keep the public informed? ▶ What information was provided to the public to educate people about potential hazards and risk reduction methods? ▶ How was use of the Emergency Broadcast System coordinated to disseminate transportation information to the public? ▶ Were progress reports given to all agencies where necessary? How often and by whom?

Task	Sub-Task	Performed By	Evaluation Criteria
III. (continued)			▶ Were updates given to supporting agencies/organizations? How often were updates provided? ▶ How was critical/sensitive information disseminated to agencies (e.g., in person, by telephone, or by radio)? ▶ Was a joint information center activated? ▶ If a joint information center was activated with local, state, and federal responders, how did the transportation agency coordinate its public information and media requirements? ▶ **Performance Measure:** Accuracy of information released to the public regarding transportation routes, required actions, recommended measures, and service. ▶ **Performance Measure:** Number of transportation media releases that were coordinated through the public information officer or the local emergency operations center. ▶ **Performance Measure:** Accuracy of information posted on the transportation agency website or intelligent transportation systems technology. ▶ **Performance Measure:** Availability of transportation emergency management director to address media requests and public information requirements.
IV. Incident site/hazard mitigation	1. Provide initial response	Transportation front-line employee	▶ Did the transportation front-line employee call into the transportation dispatch/management center and report the incident? ▶ Did the transportation front-line employee provide a complete report, including location of incident; nearest point of access; involved transportation vehicles, facilities, employees; number of injuries/fatalities; scene hazards; and any other relevant conditions? ▶ Did the transportation front-line employee request transportation agency resources? ▶ Did the transportation front-line employee request any special instructions from the transportation dispatch/management center? ▶ Did the transportation front-line employee assist in the evacuation of motorists, passengers, contractors, and other transportation employees to a place of safety? ▶ Did the transportation front-line employee do what he or she could to support the care of injured persons? ▶ Did the transportation front-line employee do what he or she could to isolate the scene and ensure that no one entered into a hazardous area? ▶ Did the transportation front-line employee wait with the evacuated persons at the scene until additional transportation and emergency responders arrived? ▶ Did the transportation front-line employee make a follow-up report to the transportation dispatch/emergency center? ▶ **Performance Measure:** Accuracy of the information provided in the initial report versus the actual information obtained at the field (e.g., conditions, number of injured, and location). ▶ **Performance Measure:** Number of people evacuated from the hazard. ▶ **Performance Measure:** Number of times the scene was accessed by unauthorized personnel. ▶ **Performance Measure:** Accuracy of information provided in follow-up report versus actual field conditions.
	2. Establish transportation incident commander and command post	Transportation incident commander	▶ Did the transportation supervisor arrive at the incident scene? ▶ Did the transportation supervisor assume the role of transportation incident commander? ▶ Did the transportation incident commander identify any hazards on the scene? ▶ Did the transportation incident commander perform a situation assessment and determine needed resources? ▶ Did the transportation incident commander assess the current assembly point for

Task	Sub-Task	Performed By	Evaluation Criteria
IV. (continued)			evacuated persons for safe distance from the scene and any hazards that may be present? ▶ Did the transportation incident commander ensure that all evacuated persons at the assembly site were accounted for and appropriately protected? ▶ Did the transportation incident commander establish the transportation command post? ▶ Was the transportation command post established in a safe and adequate location? ▶ Did the transportation incident commander establish a communications link to the transportation dispatch/management center? ▶ Did the transportation incident commander report to the transportation dispatch/management center and verify the communications link and communications protocols? ▶ Did the transportation incident commander designate a transportation front-line employee to meet with local responders at the designated access point? ▶ Did the transportation incident commander collaborate with the arriving emergency responders, briefing them about the scene and any hazards? ▶ Did the transportation incident commander request additional transportation agency resources? ▶ Did the transportation incident command provide reports to the transportation dispatch/management center? ▶ Did the transportation incident commander identify a staging area for additional resources? ▶ Did the transportation incident commander work with arriving emergency responders to support the identification of hazard zones (if applicable)? ▶ Did the transportation incident commander establish a process for sign-in and briefing of transportation agency personnel at the transportation command post? ▶ Did the transportation incident commander establish a process for the tracking of personnel and resources at the transportation command post? ▶ How was information regarding the scene and scene hazards communicated between the transportation incident commander and the arriving responders/established emergency responder incident command post? ▶ How did transportation, fire, emergency medical services, and law enforcement collaborate in establishing the hazard zones at the scene (if applicable)? ▶ **Performance Measure:** Time between initial report of incident and when the transportation incident commander was designated. ▶ **Performance Measure:** Accuracy of information provided in reports from the transportation incident commander. ▶ **Performance Measure:** Accuracy of directions and locations provided to arriving emergency responders. ▶ **Performance Measure:** Accuracy of briefing provided by transportation incident commander to arriving responders. ▶ **Performance Measure:** Number of transportation agency personnel at the scene who did not sign in at the transportation command post and did not receive safety and incident briefings. ▶ **Performance Measure:** Number of actions performed at the incident scene that were not included in the incident log established at the transportation command post.
	3. Establish transportation incident management structure	Transportation incident commander and transportation command post	▶ Did the incident management structure established by the transportation incident commander comply with the agency's plans and procedures? ▶ What functional areas were established by the transportation incident commander? ▶ Were appropriate personnel assigned to lead and support these functional areas? ▶ How were responding transportation employees and resources coordinated into the

Task	Sub-Task	Performed By	Evaluation Criteria
IV. (continued)			response? ▶ Were a staging area and check-in point established for all incoming transportation response units and personnel? ▶ Were safety instructions and incident briefings provided to all transportation agency personnel arriving at the scene? ▶ Did the transportation command post ensure accountability for all transportation agency personnel operating on the scene? ▶ Did the transportation command post ensure controlled ingress and egress to the transportation staging area and the elements of scene being worked by transportation agency personnel? ▶ Did responding transportation agency personnel report to the staging area and the transportation command post? ▶ Did the transportation incident commander designate a liaison at the incident command post established by the emergency responders? ▶ Did command transition from the initial transportation incident commander to a more senior transportation supervisor? ▶ If so, was command passed in accordance with agency protocols? ▶ What were the strategies and goals of the transportation response, who formulated them, and how were they discussed among the participants? ▶ As the incident escalated, what additional transportation support was requested and when? ▶ Was there a safety officer present? Where was the safety officer located? ▶ Was the safety officer used effectively? ▶ How often did the transportation incident commander provide briefings for transportation agency personnel? ▶ What information was conveyed during these briefings? ▶ Was information provided in a timely manner? ▶ **Performance Measure:** Number of distinct functions performed by the transportation responders in the field. ▶ **Performance Measure:** Percentage compliance with agency procedures regarding the management of the transportation on-scene response. ▶ **Performance Measure:** Number of response activities delayed due to poor coordination at the staging area or late arrival of requested resources. ▶ **Performance Measure:** Number of times the transportation incident command was transitioned. ▶ **Performance Measure:** Number of transportation agency personnel working on the scene who were not signed in and who did not receive safety and incident briefings. ▶ **Performance Measure:** Number of transportation agency resources requested versus number of transportation agency resources actually deployed in the field. ▶ **Performance Measure:** Total number of briefings provided by the transportation incident commander or his or her designated representative. ▶ **Performance Measure:** Total number of safety briefings provided to transportation agency personnel working in the field. ▶ **Performance Measure:** Number of actions performed at the incident scene that were not included in the incident log established at the transportation command post.
	4. Collaborate with incident command/unified command established by local emergency responders	Transportation incident commander and transportation command post	▶ How did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post support the exchange of incident information and the management of requests? ▶ How did the transportation command post collaborate with the incident command post established by the emergency responders?

Task	Sub-Task	Performed By	Evaluation Criteria
IV. (continued)			▶ Did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post receive regular briefings on the progress of the response? ▶ Did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post receive specific information/guidelines regarding preservation of a crime scene or scene safety precautions? ▶ Did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post contribute to the development of the incident action plan? ▶ Did the incident command established by emergency responders' transition to unified command? If so, from the transportation perspective, was the transition appropriate and timely? ▶ Was the transportation agency brought into the unified command? When? ▶ What security measures were provided at or around the incident command post and the unified command post? ▶ Did transportation responders comply adequately with these security measures? ▶ How were transportation agency personnel able to communicate with first responders (law enforcement, fire, and emergency medical services)? ▶ How effectively was pertinent information that was received from the transportation employees in the field conveyed to other agencies on the scene? ▶ How did the emergency responder incident commander communicate initial goals, mission directives, and safety procedures to the transportation incident commander or the transportation liaison? ▶ Did the transportation incident commander obtain updates from responding transportation agency personnel? Did he or she in turn provide updates to the emergency responder incident command post? ▶ How did the transportation incident commander collaborate with the incident command established by the emergency responders to handle the media and information flow to the public? ▶ How did the transportation incident commander communicate procedures to be followed by responding transportation agency personnel (safety procedures)? ▶ How did the transportation incident commander ensure that communicated procedures were followed? ▶ How did the transportation incident commander collaborate with local responders using personal protective equipment at the scene? ▶ Were personal protective equipment and other equipment appropriate for the response throughout the duration of the response? ▶ Were personal protective equipment and other equipment requirements changed as needed? ▶ Did transportation responders use personal protective equipment to support response at the scene? ▶ **Performance Measure:** Number of briefings provided by the emergency responder incident command post to transportation agency personnel. ▶ **Performance Measure:** Percentage of transportation field communications with emergency responders that did not go through due to technology failures. ▶ **Performance Measure:** Number of times that transportation incident commander or liaison to the emergency responder incident command post was consulted regarding the development of the incident action plan. ▶ **Performance Measure:** Whether transportation was included in the unified command established at the scene (if applicable)?

Task	Sub-Task	Performed By	Evaluation Criteria
IV. (continued)	5. Support decontamination at the scene	Transportation incident command post	▶ Did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post receive timely information regarding the possible exposure of transportation employees, passengers, contractors, and/or vendors to contaminants? ▶ Did the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post receive timely information regarding the possible contamination of transportation facilities, vehicles, and equipment? ▶ Was information on the agent and decontamination procedures provided to the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post? ▶ Were the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post able to provide information and/or resources to support decontamination operations occurring on transportation property (e.g., location of water sources/sand/dirt, vehicles that could be parked in front of decontamination area to provide privacy screens, and heated vehicles for decontaminated persons waiting to go to next location)? ▶ Were the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post able to collaborate with the incident command post regarding the development of action plans for the management of contaminated facilities, vehicles, or equipment? ▶ Were the transportation incident commander and/or the transportation liaison assigned to the emergency responder incident command post able to collaborate with the coroner regarding the management of contaminated human remains on transportation property? ▶ Was access to medical expertise/public health officials provided to support the development of transportation strategies for incident management and recovery? ▶ **Performance Measure:** Time required from transportation response to notification by the emergency responder incident commander regarding the presence of a contaminant. ▶ **Performance Measure:** Number of transportation agency resources used by emergency responders to support decontamination activities in the field. ▶ **Performance Measure:** Time required to identify transportation agency personnel, passengers, contractors, and others who were contaminated. ▶ **Performance Measure:** Number of contaminated people who were allowed to leave the scene. ▶ **Performance Measure:** Time required to identify transportation facilities, vehicles, and equipment that had been contaminated. ▶ **Performance Measure:** Time required to clear contaminated remains from critical transportation operating facilities and systems. ▶ **Performance Measure:** Time required for transportation contractors and other clean-up resources to arrive at the scene and begin decontamination of facilities, vehicles, and equipment.
V. Public protection	1. Support protective action decisions made by local emergency operations center	Transportation agency emergency operations center	▶ Did the transportation agency emergency operations center provide information requested by the local emergency operations center on transportation implications of protective action options in a predicted hazard area? ▶ Did the transportation agency emergency operations center contribute to the development of a protective action recommendation? ▶ Did the transportation agency emergency operations center evaluate the protective action recommendation to ensure that transportation issues were adequately addressed? ▶ Did the transportation agency emergency operations center support the release of the protective action decision to the public through media releases, publication of

Task	Sub-Task	Performed By	Evaluation Criteria
V. (continued)			transportation evacuation routes or transportation to shelter facilities, posting of information on transportation website, and so forth? ▶ Was the transportation command post informed of the impending protective action decision? ▶ **Performance Measure:** Time required for the transportation agency emergency operations center to provide information requested by the local emergency operations center. ▶ **Performance Measure:** Time required for the transportation agency emergency operations center to evaluate the recommended protective action.
	2. Support implementation of protective action decisions made by local emergency operations center	Transportation agency emergency operations center	▶ Was the transportation agency emergency operations center able to inventory resources available to support the establishment of specified access control points and traffic control points? ▶ Was the transportation agency emergency operations center able to collaborate with the transportation dispatch/management center and the local emergency operations center to assign traffic crews to designated locations for establishing access control points and traffic control points? ▶ Was the transportation agency emergency operations center able to provide an estimate regarding how long it would take to establish the specified access control points and traffic control points? ▶ Was the transportation agency emergency operations center, working with the transportation dispatch/management center, able to confirm that transportation crews set up equipment in the proper locations to prevent access to the restricted area and to direct movement out of the area? ▶ Did the transportation agency emergency operations center report on the status of the transportation crews to the local emergency operations center? ▶ Did the transportation agency emergency operations center receive timely reports from the field regarding the status of activities to set up access control points and traffic control points? ▶ Did intelligent transportation technology support the efforts of the response to direct traffic and monitor the situation? ▶ Did the transportation agency emergency operations center make communications checks and report operational status to the local emergency operations center? Were follow-up reports made at regular intervals? ▶ Did the transportation agency emergency operations center adequately oversee transportation activities to direct evacuees along evacuation routes and prevent unauthorized access into the predicted hazard area? ▶ Was the transportation agency emergency operations center able to coordinate requests to facilitate the movement of emergency vehicles and crews through restricted areas (when necessary)? ▶ Did the transportation agency emergency operations center provide direction/support regarding the relocation of access control points and traffic control points during the incident? ▶ Was the transportation agency emergency operations center able to monitor the process of the evacuation and to report on status as requested by the local emergency operations center? ▶ **Performance Measure:** Accuracy of the estimate prepared by the transportation agency emergency operations center regarding the time required to establish access control points and traffic control points. ▶ **Performance Measure:** Number of crews deployed to establish access control points and traffic control points.

Task	Sub-Task	Performed By	Evaluation Criteria
V. (continued)			▶ **Performance Measure:** Number of status reports received from the field. ▶ **Performance Measure:** Number of calls made to the local emergency operations center. ▶ **Performance Measure:** Number of times that intelligent transportation systems technology was used to direct/monitor activity.
	3. Support the identification and management of transportation for special populations and for the population in the predicted hazard area	Transportation agency emergency operations center	▶ Was the transportation agency emergency operations center able to collaborate with the local emergency operations center to identify special populations (e.g., people in schools, people with disabilities, transit-dependent people, and incarcerated people) and vulnerable facilities? ▶ Did the transportation agency emergency operations center support the community effort to contact special populations and vulnerable facilities and inform them of the protective action to be implemented for their specific situation? ▶ Did the transportation agency emergency operations center support efforts to obtain information about any assistance they may need from the vulnerable facilities? ▶ Did the transportation agency emergency operations center inventory resources available to support the transportation of special populations to safe areas at host facilities? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to ensure the efficient and effective application of transportation agency resources to move the special populations? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to establish routes and requirements for transporting the special populations? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to develop briefings for drivers and others supporting the effort regarding the hazard area, routes to follow, emergency procedures, pick-up points, and final destinations? ▶ Did the transportation agency emergency operations center finalize these briefings and distribute them to the transportation supervisor for use in implementing the emergency transportation service? ▶ Did the transportation agency emergency operations center coordinate the overall traffic control effort to expedite the movement of transportation assets to and from special population pick-up routes and special facilities? ▶ Did the transportation agency emergency operations center authorize the release of special route information and host facility drop-off sites to transportation media sources, the transportation website, and intelligent transportation systems technology? ▶ Did the transportation agency emergency operations center establish procedures for collaborating with the host facilities regarding the status of transportation arrivals and any outstanding routes? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding the release of public information regarding protective actions taken by special populations and facilities, the location of host facilities or reception centers to which the special populations have been evacuated, and procedures for reuniting with family members who may be part of a special population? ▶ **Performance Measure:** Time required to identify transportation agency resources available to support the transportation of the population in the predicted hazard area. ▶ **Performance Measure:** Time required to develop routes for transporting the population in the predicted hazard area to host facilities. ▶ **Performance Measure:** Time required to develop briefing materials, for bus drivers and others involved in the emergency transportation service, regarding the hazard area,

Task	Sub-Task	Performed By	Evaluation Criteria
V. (continued)			routes to follow, emergency procedures, pick-up points, and final destinations. ▶ **Performance Measure:** Number of bus drivers who received safety briefing regarding the hazard area, routes to follow, emergency procedures, pick-up points, and final destinations. ▶ **Performance Measure:** Number of status reports received from the field regarding the emergency transportation service.
	4. Support the identification and management of transportation for schools and day care centers	Transportation agency emergency operations center	▶ Was the transportation agency emergency operations center able to collaborate with the local emergency operations center to identify schools and day care centers? ▶ Did the transportation agency emergency operations center support the community effort to contact schools and day care centers and inform them of the protective action to be implemented for their specific situation? ▶ Did the transportation agency emergency operations center support efforts to obtain information about any assistance they may need from the schools and day care centers? ▶ Did the transportation agency emergency operations center inventory resources available to support the transportation of school and day care center populations to safe areas at host facilities? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to ensure the efficient and effective application of transportation agency resources to move the school and day care center population? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to establish routes and requirements for transporting the school and day care center population? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center to develop briefings for drivers and others supporting the effort regarding the hazard area, routes to follow, emergency procedures, pick-up points, and final destinations? ▶ Did the transportation agency emergency operations center finalize these briefings and distribute them to the transportation supervisor for use in implementing the emergency transportation service? ▶ Did the transportation agency emergency operations center coordinate the overall traffic control effort to expedite the movement of transportation assets to and from the school and day care center pick-up routes and host facilities? ▶ Did the transportation agency emergency operations center authorize the release of special route information and host facility drop-off sites to transportation media sources and to the transportation website through intelligent transportation systems technology? ▶ Did the transportation agency emergency operations center establish procedures for collaborating with the host facilities regarding the status of transportation arrivals and any outstanding routes? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding the release of public information regarding protective actions taken for schools and day care centers, the location of host facilities or reception centers to which the school and day care center populations have been evacuated, and the procedures for reuniting with family members? ▶ **Performance Measure:** Time required to identify transportation agency resources available to support the transportation of school and day care center populations in the predicted hazard area. ▶ **Performance Measure:** Time required to develop routes for transporting school and day care center populations to host facilities. ▶ **Performance Measure:** Time required to develop briefing materials, for bus drivers and others involved in the emergency transportation service, regarding the hazard area,

Task	Sub-Task	Performed By	Evaluation Criteria
V. (continued)			routes to follow, emergency procedures, pick-up points, and final destinations. ▶ **Performance Measure:** Number of bus drivers who received safety briefing regarding the hazard area, routes to follow, emergency procedures, pick-up points, and final destinations. ▶ **Performance Measure:** Number of status reports received from the field regarding the emergency transportation service.
VI. Victim care	1. Support basic care for victims	Transportation front-line employees and transportation supervisor	▶ What steps did transportation front-line employees/transportation supervisor take to isolate the immediate area and contain the victims? ▶ How did transportation front-line employees/transportation supervisor communicate with victims and get them to a safe area? ▶ What activities were performed by transportation front-line employees/transportation supervisor to ensure that victims remained in the safe area and did not leave the scene? ▶ Did transportation front-line employees/transportation supervisor obtain a count and the names of the victims? ▶ Are transportation front-line employees/transportation supervisor trained in basic emergency first-aid? ▶ If so, did transportation front-line employees/transportation supervisor provide any such first aid to victims? ▶ Did transportation front-line employees/transportation supervisor observe and report symptoms (e.g., breathing difficulties, seizures, rashes, pupil abnormalities, and other physiological reactions) to the transportation dispatch/management center? ▶ Did transportation front-line employees/transportation supervisor initiate any decontamination activities (e.g., remove clothes and find water, dirt, and sand)? ▶ Did transportation front-line employees/transportation supervisor remove any fallen victims to an area of safety? ▶ What steps were taken by transportation front-line employees/transportation supervisor regarding the "walking wounded" who may have left the area? ▶ Did transportation front-line employees/transportation supervisor meet with emergency responders and provide information regarding what happened, any symptoms, and any information collected on the victims? ▶ **Performance Measure:** Time required to isolate the area and evacuate victims to a safe location. ▶ **Performance Measure:** Accuracy of information provided by the transportation front-line employee to the transportation dispatch/management center. ▶ **Performance Measure:** Accuracy of briefing provided by transportation front-line employees to emergency responders arriving on the scene.
	2. Support search and rescue operations	Transportation front-line employees and transportation supervisor	▶ Did transportation front-line employees/transportation supervisor survey the incident scene and report any information regarding victims who may be trapped, buried, or unconscious in an unsafe area? ▶ Did the transportation front-line employees/transportation supervisor identify and speak with individuals who may have information about the structure and potential location of entrapped victims? ▶ Did the transportation front-line employees/transportation supervisor meet with emergency responders at the scene and offer assistance? ▶ Did the transportation front-line employees/transportation supervisor or transportation incident commander provide information on scene hazards and support the development of a safety plan? ▶ Did the transportation front-line employees/transportation supervisor support physical search activities? ▶ Did the transportation incident commander coordinate transportation agency resources

Task	Sub-Task	Performed By	Evaluation Criteria
VI. (continued)			at the scene to support search and rescue operations? ▶ Did the transportation incident commander offer/provide resources to support engineering assessment, debris removal, or extrication? ▶ Did the transportation incident commander collaborate with the incident command post established by emergency responders to address/recommend staging areas and transportation issues for victims? ▶ **Performance Measure:** Accuracy of information provided by the transportation front-line employee to the transportation dispatch/management center. ▶ **Performance Measure:** Accuracy of briefing provided by transportation front-line employees to emergency responders arriving on the scene. ▶ **Performance Measure:** Number of transportation agency resources deployed to support search and rescue operations.
	3. Support transportation of victims	Transportation incident commander and transportation agency emergency operations center	▶ Did the transportation incident commander collaborate with the emergency responder incident command post regarding the location of the staging area for victim transport? ▶ Did the transportation incident commander collaborate with the emergency responder incident command post regarding any requests for transportation vehicles/support? ▶ In the event that transportation agency resources are used to support the operation, have safety briefings been provided to transportation agency personnel? ▶ Did the transportation incident commander collaborate with the transportation agency emergency operations center regarding the availability of vehicles to support victim transport? ▶ Did the transportation incident commander provide the location of the victim transport staging area and any other necessary information? ▶ Were there any requirements made to modify transportation vehicles to support the operation (e.g., remove seats and drape surfaces in vehicle to prevent cross-contamination)? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding recommended routes and supporting traffic control measures for the transportation of victims? ▶ Did the transportation agency emergency operations center collaborate with the local emergency operations center regarding the location of the victim drop-off and any special deboarding procedures to be used for the victims? ▶ Did the transportation incident commander collaborate with responders on the scene to ensure that a qualified emergency medical technician will accompany the victims in the transportation vehicle? ▶ Were any special instructions provided regarding the inspection and possible decontamination of transportation vehicles? ▶ **Performance Measure:** Number of transportation vehicles used to support the transport of victims. ▶ **Performance Measure:** Time required for requested transportation agency resources to reach victim transport staging area. ▶ **Performance Measure:** Number of safety briefings provided to transportation agency personnel supporting the transport of victims.
VII. Investigation/ apprehension	1. Support law enforcement activities to investigate incident	Transportation front-line employees and transportation incident commander	▶ Did the transportation front-line employees adequately isolate the scene and prohibit unauthorized access? ▶ Were transportation agency resources used to control access to the scene and to establish traffic control around the scene? ▶ Did the transportation incident command collaborate with the emergency responder incident command post to obtain a briefing regarding scene protection/investigation requirements?

Task	Sub-Task	Performed By	Evaluation Criteria
VII. (continued)			▶ Was the transportation incident commander provided with guidance regarding the perimeters of the incident scene and the authorized locations for transportation response personnel? ▶ Was the transportation incident commander provided with guidance regarding specific actions that should not be taken at the incident scene? ▶ Was the transportation incident commander provided with guidance regarding activities to be performed in the event that potential evidence was uncovered at the scene? ▶ Did the transportation command post follow appropriate security procedures during the incident response? ▶ Were all transportation agency personnel at the incident scene signed in, briefed, and credentialed prior to obtaining access to the incident scene? ▶ Did transportation front-line employees convey to emergency responders any information that they obtained from victims or upon arriving on scene that may have supported the investigation? ▶ **Performance Measure:** Number of unauthorized people who accessed the scene using sites or locations managed by transportation agency personnel. ▶ **Performance Measure:** Number of transportation agency personnel working at the scene who have not been signed in, briefed, or credentialed. ▶ **Performance Measure:** Number of transportation agency resources used to support access control/traffic control at the scene.
VIII. Recovery/ remediation	1. Collaborate with local emergency operations center regarding damage assessment reports	Transportation agency emergency operations center	▶ Did the transportation agency emergency operations center provide damage estimates requested by the local emergency operations center? ▶ Were additional, more complete damage assessments prepared as the incident progressed? ▶ If so, were these damage assessments conveyed to the local emergency operations center? ▶ Did the transportation agency emergency operations center ensure that all transportation agency personnel, activities, and resources used in the emergency response were identified and tracked? ▶ Did the transportation agency emergency operations center distinguish response activities performed that could be reimbursed in the event of a Stafford Act declaration from response activities that could not be reimbursed? ▶ Did the transportation agency have a procedure in place for obtaining estimates regarding the cost of cleaning up and/or rebuilding damaged facilities and replacing damaged vehicles and equipment? ▶ Did the transportation agency have a procedure in place for obtaining estimates regarding the cost of environmental clean-up/decontamination of affected facilities, vehicles, and equipment? ▶ **Performance Measure:** Estimated percentage of Stafford Act costs documented by the transportation agency in a format/method appropriate for reimbursement. ▶ **Performance Measure:** Number of damage assessments requested versus number actually performed.
	2. Stabilize area traffic management	Transportation dispatch/management center	▶ Did the transportation dispatch/management center effectively monitor and control transportation systems and infrastructure and coordinate transportation activities with other agencies (local, state, and federal)? ▶ Did the transportation dispatch/management center establish alternate routes to move traffic around the affected area? ▶ Did the transportation dispatch/management center assist state and local government entities in determining the most viable available transportation networks to, from, and within the disaster area and regulate the use of those networks for the movement of

Task	Sub-Task	Performed By	Evaluation Criteria
VIII. (continued)			people, equipment, supplies, records, and so forth? ▶ Did the transportation dispatch/management center establish and manage emergency access for transport of emergency resources, including traffic control points, barricade plans, and potential one-way/reverse-lane operations? ▶ Did the transportation dispatch/management center effectively collaborate with adjacent transportation agencies that may have been receiving transportation from diverted routes? ▶ Was intelligent transportation systems technology effectively used to support the routing and monitoring of traffic? ▶ Were traffic routes conveyed to the public using intelligent transportation systems, websites, highway advisory radio, and other means available to the transportation agency? ▶ Did the transportation dispatch/management center adequately communicate with private-sector freight providers and the U.S. military regarding restrictions on alternate routes? ▶ Were alternate arrangements made to address freight transportation, including weigh stations, route routing information, and anticipated delays? ▶ Was traffic around the affected area effectively dissipated and stabilized? ▶ Did the transportation dispatch/management center provide any highway clearances and waivers required to expedite the transportation of high-priority materials and the evacuation of personnel during periods of declared emergencies? ▶ Did the transportation dispatch/management center manage unexpected capacity reduction on selected routes? ▶ Did the transportation dispatch/management center coordinate traffic control strategies supporting emergency response across jurisdictions? ▶ Did the transportation dispatch/management center coordinate transit service changes across jurisdictions? ▶ Did the transportation dispatch/management center provide public information on road closures, infrastructure damage, debris removal, and restoration activities related to highway systems and facilities? ▶ Did the transportation dispatch/management center provide real-time traffic information and traffic reports for roads within the affected area or on roads leading into the area? ▶ Did the transportation dispatch/management center provide updated transit service information for the disaster area? ▶ **Performance Measure:** Time required to stabilize traffic around incident site. ▶ **Performance Measure:** Percentage compliance with agency procedures regarding the management of freight, personal vehicles, and transit. ▶ **Performance Measure:** Number of calls made to support freight transportation. ▶ **Performance Measure:** Number of public information releases provided regarding traffic routes, closures, and traffic flow. ▶ **Performance Measure:** Number of temporary/emergency waivers issued. ▶ **Performance Measure:** Percentage intelligent transportation systems capabilities used to support traffic management.
	3. Create long-term plan for service restoration	Transportation senior executives	▶ Were long-term staffing plans prepared to support the development of temporary service plans? ▶ Were temporary service plans prepared? ▶ Were temporary service plans adequately communicated to the public using media outlets, intelligent transportation systems, websites, flyers, and other means? ▶ Was a complete list prepared of transportation facilities, vehicles, equipment, and personnel lost in the emergency incident?

Task	Sub-Task	Performed By	Evaluation Criteria
VIII. (continued)			▶ Were cost estimates and schedules prepared regarding the replacement of lost facilities, vehicles, and equipment? ▶ Were temporary service plans adjusted based on the expected duration until completion of restoration activities? ▶ Was a complete examination planned regarding the availability of federal, state, and local funds to support restoration? ▶ Did the transportation agency collaborate with the local jurisdictions affected by the emergency incident regarding communitywide restoration activities? ▶ **Performance Measure:** Time required to develop temporary service plans. ▶ **Performance Measure:** Time required to communicate temporary service plans to the public.

Note: This transportation exercise evaluation guide contains "typical" steps one might expect to see a player take when performing a transportation sub-task. Please consult the specific transportation plans and procedures for actual requirements, and modify the steps accordingly.

ATTACHMENT 3 NEEDS ASSESSMENT TEMPLATE

Needs Assessment

1. Hazards

List the various hazards in your community or transportation agency. What risks are you most likely to face? You can use the following checklist as a starting point.

Note: If your community has already conducted a hazard analysis, begin with that resource.

- ☐ Airplane crash
- ☐ Dam failure
- ☐ Drought
- ☐ Earthquake
- ☐ Epidemic (biological attack)
- ☐ Fire/firestorm
- ☐ Flood
- ☐ Hazardous material spill/release
- ☐ Hostage/shooting
- ☐ Hurricane
- ☐ Landslide/mudslide
- ☐ Mass fatality incident
- ☐ Radiological release
- ☐ Sustained power failure
- ☐ Terrorism
- ☐ Tornado
- ☐ Train derailment
- ☐ Tsunami
- ☐ Volcanic eruption
- ☐ Wildfire
- ☐ Winter storm
- ☐ Workplace violence
- ☐ Other _____
- ☐ Other _____
- ☐ Other _____
- ☐ Other _____

2. Secondary Hazards

What secondary effects from those hazards are likely to impact your organization?

- ☐ Communication system breakdown
- ☐ Power outages
- ☐ Transportation blockages
- ☐ Business interruptions
- ☐ Mass evacuations/displaced population
- ☐ Overwhelmed medical/mortuary services
- ☐ Other _____
- ☐ Other _____
- ☐ Other _____
- ☐ Other _____

3. Hazard Priority

What are the highest-priority hazards? Consider such factors as:

- ☐ Frequency of occurrence
- ☐ Relative likelihood of occurrence
- ☐ Magnitude and intensity
- ☐ Location (affecting critical areas or infrastructure)
- ☐ Spatial extent
- ☐ Speed of onset and availability of warning
- ☐ Potential severity of consequences to people, critical facilities, community functions, and property
- ☐ Potential cascading events (e.g., damage to chemical processing plant, dam failure)

#1 Priority hazard:

_____

#2 Priority hazard:

_____

#3 Priority hazard:

_____

4. Area
What geographic areas or facility locations are most vulnerable to the high-priority hazards?

_____

_____

_____

5. Plans and Procedures
What plans and procedures (e.g., emergency response plan, contingency plan, operational plan, and standard operating procedures) will guide your organization's response to an emergency?

_____

_____

_____

6. Functions
What emergency management functions are most in need of rehearsal? (What functions have not been exercised recently? Where have difficulties occurred in the past?) You can use the following checklist as a starting point.

- ☐ Alert notification (emergency response)
- ☐ Public safety
- ☐ Warning (public)
- ☐ Public works/engineering
- ☐ Communications
- ☐ Transportation
- ☐ Coordination and control
- ☐ Resource management
- ☐ Emergency public information (EPI)
- ☐ Continuity of government or operations
- ☐ Damage assessment
- ☐ Health and medical
- ☐ Individual/family assistance
- ☐ Other _____
- ☐ Other _____
- ☐ Other _____

7. Participants
Who (agencies, departments, operational units, or personnel) needs to participate in an exercise? For example:

- ☐ Have any entities updated their plans and procedures?
- ☐ Have any changed policies or staff?
- ☐ Who is designated for emergency management responsibility in your plans and procedures?
- ☐ With whom does your organization need to collaborate in an emergency?
- ☐ What do your regulatory requirements call for?
- ☐ What personnel can you reasonably expect to devote to developing an exercise?

List participating agencies, departments, operational units, and personnel who might be likely participants:

_____

_____

_____

Self-Assessment: Resources and Costs

Plans

How familiar are you with the emergency plans, policies, and procedures of your organization or jurisdiction?

☐ Very familiar
☐ Generally familiar
☐ Familiar with only a portion
☐ Not familiar—need to thoroughly review plans, policies, and procedures

Time

How far in advance would your organization realistically have to schedule to plan and design each of the following exercise activities effectively?

Orientation _____

Drill _____

Tabletop _____

Functional exercise _____

Full-scale exercise _____

How much preparation time can reasonably be allocated to developing an exercise?

Actual person days:

Elapsed time to exercise:

Experience

When was your organization's last exercise?

What is your previous experience with exercises? (Check all that apply.)

Orientation: ☐ Presenter ☐ Participant

Drill: ☐ Controller ☐ Participant

Tabletop: ☐ Facilitator ☐ Participant

Functional exercise: ☐ Controller ☐ Simulator ☐ Player ☐ Evaluator

Full-scale exercise: ☐ Controller ☐ Responder ☐ Evaluator ☐ Victim

☐ Took part in postexercise debrief.

☐ Helped write an evaluation report.

Self-Assessment: Resources and Costs (Continued)

What other exercise-related experience is available in your organization?

Facilities

What physical facilities do you use when conducting an emergency operation?

Will they be required for this exercise? Yes ☐ No ☐

Will they be available for this exercise? Yes ☐ No ☐

Communications:

What communication facilities and systems do you use in a real emergency?

Will they be required for this exercise? Yes ☐ No ☐

Will they be available for this exercise? Yes ☐ No ☐

Barriers: Are there any resource barriers that need to be overcome to carry out this exercise? Yes ☐ No ☐

If so, what are the barriers and how can they be overcome?

Self-Assessment: Resources and Costs (Continued)

Costs

What types of costs might be incurred for these exercises in your organization? (Do not list exact figures—just types of expenses, such as wages and salaries, transportation, etc.)

For an orientation:

For a drill:

For a tabletop:

For a functional exercise:

For a full-scale exercise:

Are there ways that different organizations can reduce costs (e.g., by combining exercises, cost-sharing, or resource-sharing) and still fulfill program requirements? Explain.

ATTACHMENT 4 EXERCISE DESIGN OBJECTIVES

Exercise Design Objectives

Note: The following exercise design objectives are for a transportation exercise. Transportation planning team members should limit the number of objectives selected for any one exercise to **no more than five.** These objectives may be combined or modified, based on the needs of the transportation agency. The selected objectives should be based on the scope and type of the exercise, as well as the scenario and/or subject. Exercise design objectives will be selected by the transportation planning team prior to the development of more detailed materials to support the exercises. Selected objectives can be further modified once these materials are developed.

Transportation Plans, Checklists, and Procedures

1. **Transportation Emergency Operations Plans, Checklists, and Procedures.** Assess the availability of transportation plans, checklists, and procedures to support emergency response activities to transportation personnel. Determine if these materials were located and used and if all transportation agency personnel who needed them had access to them. Identify any weaknesses regarding the storage, placement, and use of these materials.
2. **Transportation Response Plan and Supporting Materials.** Assess the adequacy of the transportation emergency operations plan and supporting checklists and procedures to respond to the emergency incident. Determine if these tools provided transportation agency personnel with the direction and support needed to perform emergency response activities. Identify shortfalls in the plan, checklists, and/or procedures; limits in capabilities; and conflicts regarding roles and responsibilities.
3. **Transportation Decision-Making Process.** Assess the decision-making process used by the transportation agency to respond to the emergency. Determine whether roles and responsibilities, authorities, and tasks specified in the transportation emergency operations plan, checklists, and procedures actually occurred as documented or whether other actions were taken. Identify weaknesses in existing decision-making processes, roles, responsibilities, and specified tasks.
4. **Interface with the Local Responders/Emergency Operations Center.** Assess the adequacy of the existing memorandum of understanding or memorandum of agreement, protocols, and other agreements, as well as procedures specified for transportation in the communitywide emergency operations plan. Determine if expected actions occurred. Identify limitations in resources, communication, coordination, and planning.
5. **Interface with the Private Sector.** Assess the adequacy of existing agreements with tenants, vendors, and other private-sector partners. Determine if expected actions occurred, including access to services provided under emergency procurement agreements. Identify limitations in resources, communication, coordination, and planning.
6. **Interface with State Agencies.** Assess the adequacy of existing mutual aid agreements, emergency plans, and supporting procedures with state agencies. Determine if expected actions occurred. Identify limitations in resources, communication, coordination, and planning.
7. **Awareness of Potential Interface with Federal Plans.** Assess the transportation agency's understanding of federal directives and plans (e.g., National Incident Management System and National Response Plan) and federal agencies' roles in responding to an incident of national significance. Determine if transportation agency plans and coordination with the local emergency operations center and field command structure adequately identified the potential federal role. Identify limitations in resources, communication, coordination, and planning.

Interagency Planning and Coordination

1. **Community Response Plans.** Assess the adequacy of local, communitywide, and agency-specific plans to respond to the transportation requirements of the emergency incident. Determine if transportation activities were appropriately identified, coordinated, and managed. Identify shortfalls in resources, limits in capabilities, and conflicts in planning.
2. **Local Decision-Making Process.** Assess the adequacy of the local decision-making process to address the emergency incident's transportation requirements. Determine if local officials, local emergency operations center personnel, and local responders effectively identified the impacts of transportation decisions and coordinated their implementation with the appropriate transportation personnel. Identify outstanding needs for information, impact assessments, clarification of roles and responsibilities, and key actions to be taken regarding transportation.

3. **Private/Public Sector Interface.** Determine if the local community adequately collaborated with the private sector regarding both transportation impacts and requirements. Identify limitations in the existing process, requirements for both agreements and emergency procurement of services, and coordination of needs for private-sector emergency operations centers.
4. **Interface with Local/State/Federal Agencies.** Assess the adequacy of the interface and understanding among local/state/federal agencies in the conduct of incident management activities affecting transportation. Determine if transportation requirements were appropriately identified and communicated across local, state, and federal jurisdictions. Identify limitations in communication, coordination, understanding of roles and responsibilities, and direction regarding the emergency incident's transportation requirements.
5. **Awareness of Federal Plans.** Assess the local community's capabilities to collaborate with existing federal directives and plans (e.g., National Incident Management System and National Response Plan) regarding transportation issues. Determine if federal capabilities and requirements for transportation were adequately addressed. Identify limitations in communication, coordination, understanding of roles and responsibilities, and direction regarding the implications of federal involvement in addressing the emergency incident's transportation requirements.

Notification and Incident Reporting

1. **Transportation Notification.** Assess the adequacy of the transportation agency's internal process for receiving and making notifications regarding the emergency incident. Determine if appropriate notification procedures were followed and if required checklists were used or referenced. Identify needed improvements in the process. If applicable, be sure to address notification requirements during both duty and nonduty hours.
2. **Transportation Incident Verification.** Assess the adequacy of the transportation agency's activity to verify the notification. Determine if additional transportation capabilities and resources are available to support verification. Identify limitations in existing processes.
3. **Transportation Incident Reporting.** Assess the adequacy of initial reports received from transportation personnel. Determine if sufficient information was provided to support the request of appropriate resources and the dispatch of appropriate personnel. Identify limitations in existing procedures for obtaining initial reports.
4. **Activation of Transportation Agency Emergency Operations Center.** Assess the process used by the transportation agency to activate its emergency operations center. Determine if this process supported appropriate and timely activation and if all required notifications were made to transportation personnel. Identify additional requirements regarding the activation of the transportation agency emergency operations center and the notification of personnel.
5. **Follow-Up Reports.** Assess the adequacy of the follow-up reports received from transportation agency personnel. Determine if these reports provided additional information to clarify questions/
needs outstanding from initial reports. Identify additional requirements regarding information to be provided in follow-up reports.
6. **Activation of Extended Staffing Plans.** Assess the adequacy of the process through which the transportation agency emergency operations center authorizes the activation of extended staffing plans. Determine if current procedures for activation and for developing and implementing these plans are adequate. Identify any recommendations for improvement.

Transportation Incident Management System

1. **Transportation Command Post.** Assess the location and adequacy of the transportation agency's command post. Determine if the appropriate measures were taken in locating the command post, establishing communications, accounting for transportation agency personnel at the scene, identifying hazards at the scene, ensuring transportation agency worker safety, and providing briefings to arriving personnel. Identify any limitations in the existing process.
2. **Transportation Incident Commander.** Assess the adequacy of the process through which a transportation incident commander was selected, and evaluate his or her performance of the incident commander's roles and responsibilities. Determine if the transportation incident commander appropriately carried out his or her duties. Identify activities that should have been/should not have been performed by the transportation incident commander.
3. **Liaison with Local Incident Command System.** Assess the adequacy of the liaison between the transportation incident commander and the local jurisdiction's single/unified command established at the scene. Determine if appropriate coordination

and communication regarding field hazards, activities, briefings, sign-in/credentialing, resource requests, and incident action planning occurred. Identify needs for improved liaison/coordination with the local jurisdiction's command system.

4. **Transportation Incident Management Team.** Assess the adequacy of the field response organization established by the transportation incident commander at the scene. Determine if the appropriate personnel were available; if sign-in, credentialing, briefing, and worker safety protocols were followed; and if transportation agency personnel were appropriately tracked and dispatched from the scene when their activities were complete. Identify any weaknesses in the transportation field organization.
5. **Transportation Dispatch/Management Center.** Assess the adequacy of the interface established between the transportation incident commander and the transportation dispatch/management center. Determine if appropriate communications occurred and if information was adequately relayed among the transportation incident command post, the transportation dispatch/management center, the transportation agency emergency operations center (with local responder dispatch functions), and the local emergency operations center. Identify any limitations in the existing communications process.
6. **Transportation Agency Emergency Operations Center.** Assess the adequacy of the transportation agency emergency operations center as a coordinating and long-term planning entity. Determine if the transportation agency emergency operations center was able to appropriately identify and coordinate resource requests; manage strategic transportation planning in both the affected areas(s) and the nonaffected areas; support public information management and media requests; and collaborate effectively with the transportation incident command post and the local emergency operations center. Identify limitations or areas in need of improvement.
7. **Local Incident Command System.** Assess the adequacy of the local command structure in identifying and managing the emergency incident's transportation requirements. Determine if transportation impacts were appropriately identified; if transportation decisions were collaborated with the transportation incident commander; and if needed transportation agency resources were appropriately identified, requested, tracked, and deployed through the command structure. Identify critical issues and potential solutions.

<u>Resource Coordination</u>

1. **Transportation Agency Resource Coordination.** Assess the adequacy of the transportation agency's internal process for identifying, requesting, tracking, staging, and deploying resources. Determine if needed resources were available, appropriately requested, logged, staged, and used. Identify limitations in the transportation agency's process for identifying and communicating resource needs, tracking requests, accessing and staging resources, and deploying them in the field.
2. **Mutual-Aid Agreements.** Assess the adequacy of existing mutual aid agreements with local responders and the local emergency management agency to identify and type transportation agency resources, to support the request and tracking of these resources, and to coordinate their staging and deployment in the field. Identify limitations in existing mutual aid agreements regarding the identification and typing of transportation agency resources, the use of tracking systems, the coordination with field command systems regarding the staging and deployment of resources, and the capabilities of the transportation agency to fulfill the agreements.
3. **Local Resource Coordination.** Assess the adequacy of coordination between the transportation agency and the local community regarding the integration of transportation agency resources into the response. Determine limitations in the local community's awareness of the resources available from the transportation agency and the requirements of using these resources in the field. Identify critical issues and potential solutions.
4. **Awareness of Federal/State Capabilities.** Assess the adequacy of the local community's ability to identify, type, and request additional transportation agency resources from state and federal agencies. Determine capabilities available from state and federal agencies in responding to the emergency incident and any requirements regarding how these capabilities must be requested. Identify limitations in communication, coordination, resource typing, damage assessments, and resource inventories.
5. **Implementation of External Assets.** Examine factors involved in the request, receipt, use, and integration of external response transportation assets by local incident command system protocols. Identify interoperability shortcomings and potential time delays that impede the rapid assimilation of external resources. Propose potential long-term solutions and short-term workarounds.

6. **Deployment of External Resources.** Assess the adequacy of the existing process for receiving and deploying external transportation agency resources. Determine if existing protocols for deploying external resources result in potential time delays in receipt of external support. Determine the inherent effects at the local level. Identify critical issues and potential solutions.

Threat/Hazard-Related Issues

1. **Threat Preparation.** Assess the current threat warning systems used by the transportation agency. Determine if existing technology and procedures adequately address the emergency incident, enabling prepositioning of resources and activation of additional transportation staff (if appropriate to the exercise). Identify additional warning systems, technology, or procedures that may improve capabilities.
2. **Criminal Investigations.** Assess the current capabilities of transportation personnel to support criminal investigations at incident scenes. Determine if existing procedures for denying access to the scene; setting perimeters; managing affected motorists, passengers and employees; and handling telephonic/written threats are in concert with the needs of local law enforcement. Identify areas for improvement.
3. **Detection.** Assess the capability of the transportation system to detect and report the effects of chemical, biological, radiological, or nuclear agents. Determine if existing checklists and procedures adequately capture information to be relayed to local responders. Identify areas for improvement.

Coordination with Specialized Community Assets

1. **Special Weapons and Tactics (SWAT) Teams.** Assess current procedures for notifying and supporting response from SWAT teams to suspicious packages and other events. Determine if existing procedures adequately address the requirements of these teams for response in the transportation environment. Identify areas of improvement.
2. **Hazardous Materials (HazMat) Units.** Assess current procedures for notifying and supporting response from HazMat units to suspicious releases, packages, circumstances, and other events. Determine if existing procedures adequately address the requirements of these units for response in the transportation environment. Identify areas of improvement.
3. **Medical Community/Public Health.** Assess current transportation capabilities to collaborate with the medical community regarding information; support for the transportation of ambulatory persons; and transportation support for shelters, decontaminations sites, and areas of restricted mobility. Determine if existing procedures appropriately address the needs of this community. Identify areas for improvement.
4. **Worker Safety.** Assess current procedures for ensuring the safety of workers at emergency sites. Determine if existing protocols and practices address local, regional, and/or state requirements. Identify areas for improvement.
5. **Coroner/Medical Examiner.** Assess current procedures for notifying and supporting response from the coroner's/medical examiner's office on-scene at the transportation agency. Determine if existing procedures appropriately address concerns regarding impacts on transportation service, special requirements that would affect the handling of substantial numbers of contaminated remains, and required transportation decision making.
6. **Environmental.** Assess existing procedures for recognizing and managing contamination of transportation facilities, vehicles, and equipment. Determine if existing protocols and contracts for hazardous material clean-up are sufficient to address a range of threats and local/regional/state requirements. Identify areas for improvement.

Public Information/Media

1. **Public Information.** Assess the capabilities of the transportation agency's current system for managing public information and media requests. Determine if procedures followed by the transportation agency emergency operations center and the transportation dispatch/management center provide timely information to the population, support the needs of the local response community, comply with the requirements of the incident joint information center (JIC), assist in minimizing chaos and controlling rumors, and preclude the dissemination of conflicting information. Identify areas for improvement.
2. **Media Control.** Assess the adequacy of transportation plans for interface with and use of media resources. Determine if these plans appropriately address transportation concerns regarding the media and the requirements of the incident JIC. If the plans address coordination with state and federal agencies, assess whether the media should become involved. Identify areas for improvement.

ATTACHMENT 5 SAMPLE EXERCISE PACKAGE

EXERCISE PLANNING CHECKLIST

Develop Workshop Content

- ☐ Goals and Objectives
- ☐ Agenda
- ☐ Scenario
- ☐ Background and supporting material
- ☐ Presentations
- ☐ Speakers

Arrange Workshop Logistics

- ☐ Facility
- ☐ Food
- ☐ Equipment (see related checklist)
- ☐ Staff travel
- ☐ Materials and supplies

Invite and Register Participants

- ☐ Invitations
- ☐ Registrations

Prepare Participant Materials

- ☐ Exercise manuals
- ☐ Nametags and name tents
- ☐ Contact lists
- ☐ Evaluation form

Assign and Coordinate Staff Roles

- ☐ Lead Facilitator
- ☐ Breakout Facilitators
- ☐ Note takers

Potential Participants in a Transportation Exercise

ORGANIZATIONS	STAFF
State and Local Level	
Departments of Transportation/Public Works	• Operations Managers • Maintenance Managers • Public Information Officers
Emergency Management and Public Safety Agencies (Fire, Police, Sheriff, and Emergency Medical Services)	• Emergency Management Agency Director or Representative • Local Emergency Planning Committee Representative • Incident Commanders (Fire and Police) • Anti-Terrorism Coordinators • Hazardous Materials (HAZMAT) Response Team Leader • Public Information Officers
Hospitals	• Disaster Planners
Transit Agencies/Authorities	• Operations Managers • Security Managers
Bridge, Tunnel, or Toll Authorities	• Operations Managers • Security Managers
Stadium Authorities	• Operations Managers • Security Managers
Metropolitan Planning Organization/ Council of Governments	• Transportation Planning Managers • Emergency/Disaster Planners
Private Freight Organizations*	• Trucking or Rail Industry Representatives
Mayor's/Governor's Offices and Offices of Homeland Security	• Emergency Coordinators • Homeland Security Officer • Public Information Officers
Local Media (Optional)	• Trusted Representative
Federal Level	
Federal Bureau of Investigation (FBI)	• Field Office WMD**/JTTF** Coordinator
Federal Emergency Management Agency (FEMA)	• State Emergency Coordinator
Federal Highway Administration	• Division Administrator
Federal Transit Administration (FTA)	• Regional Administrator
Federal Aviation Administration (FAA)	• Regional Emergency Transportation Coordinators
Research and Special Projects Administration (RSPA)	• Regional HAZMAT Safety Assistance Team Leader
Federal Railroad Administration (FRA)	• Regional Representative
National Guard	• Civil Support Team Leader
Coast Guard	• WMD** Coordinator

*Sources include MPO freight councils or state trucking and rail associations
** WMD – Weapons of Mass Destruction
***JTTF – Joint Terrorism Task Force

Exercise Scenario

The exercise scenario is a narrative statement that details background information on a hypothetical emergency situation on which an exercise is based. Factors to include in an exercise scenario are:

1. A hypothetical emergency event
2. The notification process that informs officials of the event
3. Advanced warning, if any
4. Time of event occurrence
5. Geographical information
6. Nature and scope of the event, including exposures to threats
7. Immediate response actions taken
8. Initial damage assessment facts
9. Weather condition

Exercise Scenario:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name/Title: _____ **Date:** _____

Sample Scenarios

Feature	Scenario 1: Port Dirty Nuclear Explosion	Scenario 2: Highway Collapse/Chlorine Gas Leak
Weapon	Dirty nuclear bomb, explosives	Explosives, chlorine gas
First target	Ship/port	Highway overpass
Second target	Highway overpass	Highway rail overpass, train carrying hazardous materials
Time of year	Summer, July 4	Summer
Time of day	Morning rush hour	Evening rush hour
Special features	Holiday travel	Outdoor festival near second incident scene
Modes effected	Freight (port operations), highway, and transit	Freight (rail operations), highway, and transit
Major issues	Radiation preparedness, evacuation, mass hysteria, transportation gridlock, multijurisdictional cooperation	Chemical preparedness, evacuation or sheltering for special event, transportation gridlock, multijurisdictional cooperation

Exercise Objectives

Objectives for an exercise should be clear, specific, and realistic, yet challenging, result-oriented and measurable. In the left column below, list the provisions, procedures, and so forth of the transportation agency's emergency operations plan that will be tested during the exercise. These are the exercise objectives. In the right column below, specify the pages, annexes, appendixes, tabs, and so forth in the transportation emergency operations plan that reference the provisions and procedures being tested.

List of Objectives:	Reference:
1. To Test: _____	1 _____
2. To Test: _____	2 _____
3. To Test: _____	3 _____
4. To Test: _____	4 _____
5. To Test: _____	5 _____
6. To Test: _____	6 _____
7. To Test: _____	7 _____
8. To Test: _____	8 _____
9. To Test: _____	9 _____
10. To Test: _____	10 _____
11. To Test: _____	11 _____
12. To Test: _____	12 _____
13. To Test: _____	13 _____
14. To Test: _____	14 _____
15. To Test: _____	15 _____
16. To Test: _____	16 _____
17. To Test: _____	17 _____
18. To Test: _____	18 _____

Name/Title: _____ **Date:** _____

Exercise Evaluation Criteria

The exercise evaluation must address each objective written for the exercise. List and provide comments for each exercise objective below. In your comments, answer the following questions:

1. Was the objective achieved?
2. If yes, what were the results?
3. If no, what changes or actions are required to achieve the objective?

Exercise Objective: _____

Comments: _____

Comments: _____

Exercise Objective: _____

Comments: _____

Comments: _____

Exercise Objective: _____

Comments: _____

Comments: _____

Exercise Objective: _____

Comments: _____

Comments: _____

Exercise Objective: _____

Comments: _____

Comments: _____

Name/Title: _____ **Date:** _____

Master Sequence of Events List

List the major events that constitute the significant happenings within an exercise.

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

11 _____

12 _____

13 _____

14 _____

15 _____

16 _____

17 _____

18 _____

19 _____

20 _____

21 _____

22 _____

Name/Title: _____ **Date:** _____

Exercise Messages

In all exercises from tabletops to full-scale exercises, messages need to flow in an order that involves all participating agencies. Using a chart similar to this allows you to orchestrate the event and involve varied participants. Below the flow chart is a sample message form that can be used or modified to suit your purposes.

Sample Message Flow Chart

Check the times when messages are scheduled for delivery to each organization.

Participating Agency/Organization (modifiable for your exercise)

Exercise Start	Fire	EMS	Transportation Agency	EOC	Facility CEO	School
10:00	✔	✔				
10:03			✔			
10:06		✔		✔		
10:09	✔		✔	✔		
10:12			✔	✔		✔
10:15		✔			✔	✔
etc.						

EMERGENCY EXERCISE

< MESSAGE >

TO:	**METHOD**	**FROM:**

NO:	**TIME:**

CONTENT:

ACTION TAKEN:

Exercise Participant Roster

List the name of each agency or individual who actively participated in the exercise.

1	_____	21	_____
2	_____	22	_____
3	_____	23	_____
4	_____	24	_____
5	_____	25	_____
6	_____	26	_____
7	_____	27	_____
8	_____	28	_____
9	_____	29	_____
10	_____	30	_____
11	_____	31	_____
12	_____	32	_____
13	_____	33	_____
14	_____	34	_____
15	_____	35	_____
16	_____	36	_____
17	_____	37	_____
18	_____	38	_____
19	_____	39	_____
20	_____	40	_____

Name/Title: _____ **Date:** _____

Exercise After Action Report

	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
	Problem identified or observed	**Actions to resolve the problem**	**Responsible Party**	**Deadline**
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

INSTRUCTIONS:

1) In Column 1, based upon the written exercise objectives, describe the problem identified during the exercise.
2) In Column 2, describe the actions planned to correct the problem discovered during the exercise.
3) In Column 3, specify the agency or person assigned responsibility for initiating corrective actions.
4) In Column 4, specify the deadline for completing corrective action.

Name/Title: _____ **Date:** _____

Exercise Critique

Summarize below, in narrative form, the responses of exercise participants to the following questions:

1. How do you rate the overall effectiveness of the exercise on a scale of 1 to 10, with 10 being the best rating?
2. How effectively did the exercise simulate the emergency environment expected for the hazards involved in the exercise?
3. Did the problems presented in the exercise adequately test the readiness and capability of the local emergency operations plan?
4. What simulated emergency problems should be revised or deleted?
5. What simulated emergency problems should be added for the next exercise?
6. What are the significant accomplishments of this exercise?
7. What other comments or criticisms do you have?

Critique Summary:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name/Title: _____ **Date:** _____

ATTACHMENT 6 TRANSPORTATION INCIDENT RESPONSE TYPOLOGY

Transportation Incident Response Typology

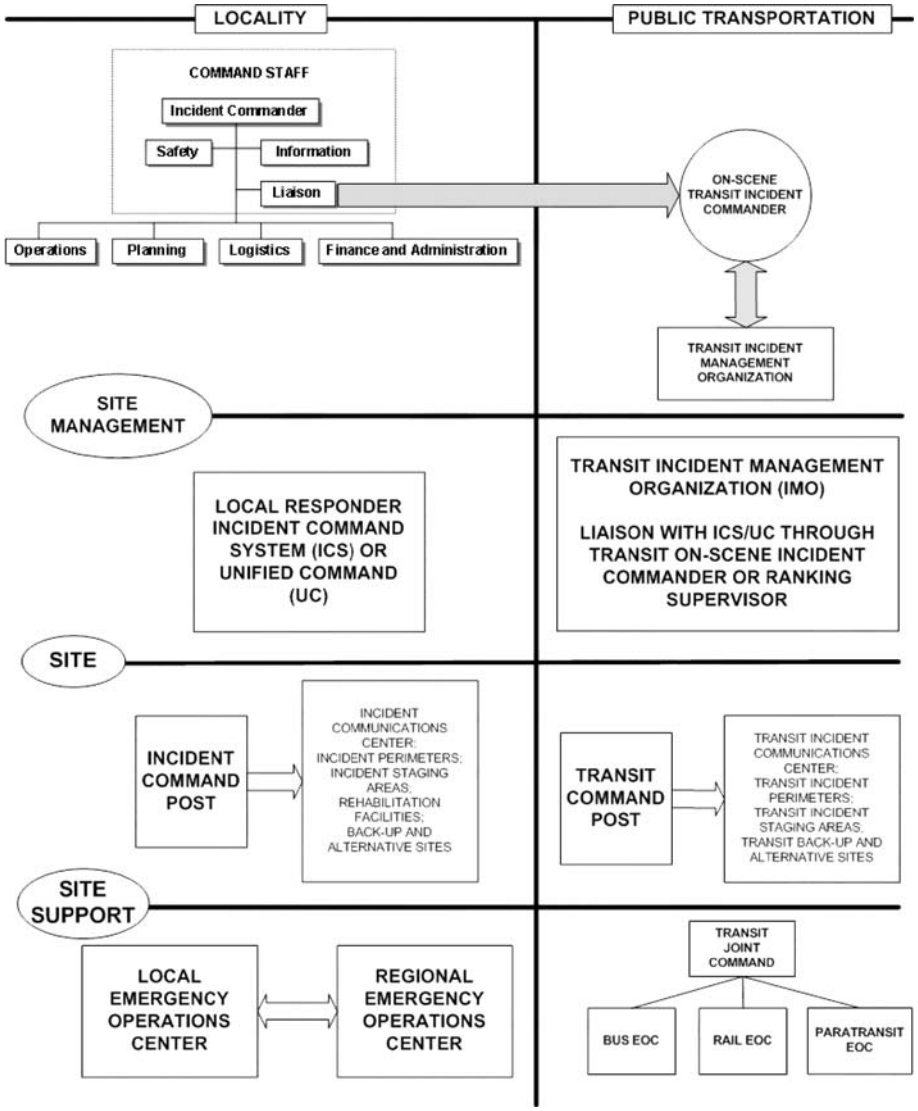
Incident Classification	Examples	Duration of Disruption	Command and Coordination Structure
Level I: Minor Incidents	► Minor traffic incident ► Traffic crash ► Minor load spill ► Vehicle fire ► Minor train or bus accident ► Minor employee accident with injuries	0-2 hours (in most cases)	On-scene resources, such as the incident command system (ICS) and person-to-person communication, are typically sufficient to manage the incident. ICS single command is typically all that is required. Transportation front-line personnel and the transportation supervisor will support the emergency responder incident commander in resolving the incident.
Level II: Extended Incidents	► Train derailment ► Major bus/rail transit accident ► Major truck accident ► Multivehicle crash ► Hazmat spills ► Accidents with fatalities and injuries ► Minor earthquakes, landslides	2-8 hours (in most cases)	On-scene resources, which may be supplemented by additional resources through ICS single command, are used to resolve the incident. The main resource is person-to-person communication at the scene, but agency-to-agency communication may be necessary (i.e., transportation dispatch/management center to emergency responder dispatch center). The transportation incident management system will be activated, and a transportation incident commander will be assigned. The transportation emergency operations center may be activated. If the incident escalates, unified command may be established and the local emergency operations center may be activated.

(continued)

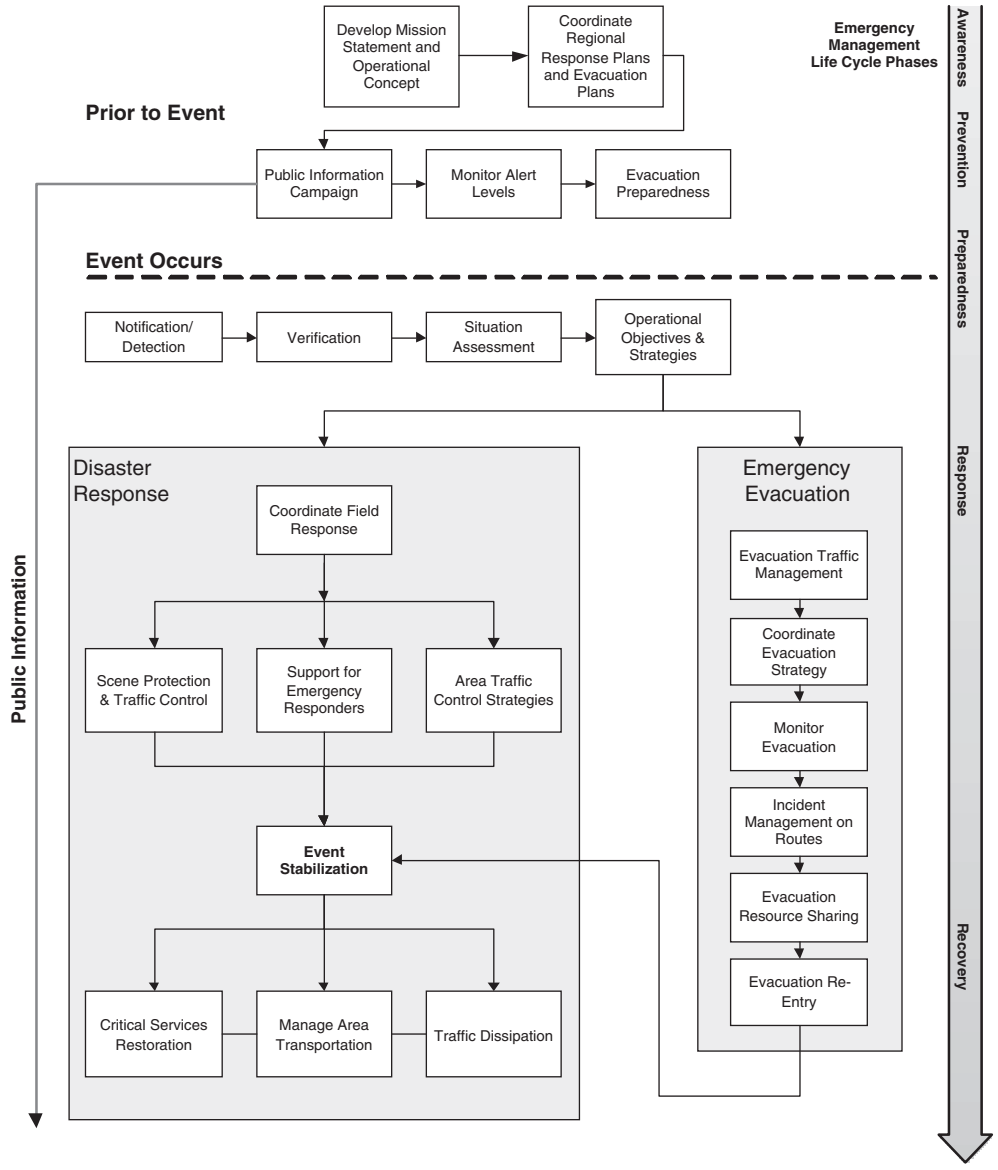
(*Continued*)

Incident Classification	Examples	Duration of Disruption	Command and Coordination Structure
Level III: Major Incidents	► Train crash ► Airplane crash ► Hazmat incident ► Multivehicle accident ► Tunnel fire ► Infrastructure collapse ► Accidents with multiple fatalities/injuries ► Accident with mass casualties ► Port/airport incidents ► Industrial accidents ► Critical system failure ► Tornados, flash floods, electrical storms, and smaller wildfires ► Workplace violence/strike	8-24 hours (in most cases)	These incidents require activation of ICS in the field (possibly unified command) and activation of the local emergency operations center (EOC). The transportation agency will activate its transportation incident management system in the field, including designation of a transportation incident commander and transportation command post. The transportation emergency operations center will be activated. Communications will be managed through both person-to-person communication (in the field) and agency-to-agency communication (between the transportation and local emergency operations center and the transportation dispatch/management center and emergency responder dispatch centers). A transportation liaison will be assigned to the local emergency operations center.
Level IV: Incidents of National Significance	► Terrorist attack/WMD or credible threat of such attack ► Natural disasters resulting in declaration of Presidential emergency ► Events that require involvement of more than one federal department or agency	24+ hours (in most cases)	These events trigger activation of the National Response Plan. Federal resources will be integrated into the command and coordination structure established for Level III events at the regional, state, and national level. Unified area command may be established by the responders in the field to facilitate the integration of federal resources into the local/regional response activity.

Example of Level III Incident Classification for Elements of Local and Transit Agency Response



State DOT/Traffic Management Center Emergency Response Activities



Disaster Response Activities

Function	Representative Activities Performed by Transportation Management Centers and State and Local Transportation Organizations
Coordinate Response Plans	▶ Support the development/revision of the following: ○ transportation-related components of local, regional, and state emergency operations plans (EOPs) and transportation annexes; ○ transportation-related components of local/regional hazard-specific plans; ○ Mutual aid and other support agreements with appropriate local and state agencies to address transportation resources and concerns; and ○ Memoranda of understanding and letters of agreement with local public safety agencies documenting transportation roles and responsibilities in the incident command system (ICS) and community emergency operations center (EOC).
Monitor Alert Levels	▶ Improve access to alerting systems and information regarding terrorism threat levels. ▶ Improve access to alerting systems for natural disasters. ▶ Develop and implement protective measures in times of heightened threat or natural disaster, which include early notification of transportation decision-makers; early activation of key traffic control strategies; staging of predeployed resources throughout the area; and direct assignment of transportation managers and others with authority to make decisions at strategic locations. ▶ Support the rapid and coordinated identification of mobilization sites, staging areas, and traffic control plans, integrated with threat assessment and scene security requirements. ▶ Support the rapid and coordinated consideration of traffic routing alternatives and regionwide coordination regarding traffic management. ▶ Update contact and on-call systems, thereby ensuring 24/7 access to transportation decision-makers at both the strategic (management) and the tactical (field) levels.
Detect and Verify Emergencies	▶ Use surveillance systems to detect indicators of a potential emergency, an emergency that is occurring, or an emergency that has occurred. ▶ Collaborate with and alert other agencies to recognize an emergency event in progress that may affect the regional transportation system. ▶ Establish manual or automated information sharing with local emergency communications centers (ECCs)/911 centers. ▶ Collaborate with field personnel and equipment to verify that an emergency event is occurring or has occurred, and communicate relevant information to all responding agencies.
Assess Infrastructure Status	▶ Improve operational availability of critical management, information, communications, and control systems in potential disaster scenarios. ▶ Clarify access priority for engineers and other transportation field personnel who must assess infrastructure, equipment, and facilities located at or nearby the scene. ▶ Provide assistance in determining any potential hazards at the scene.

Disaster Response Activities

Function	Representative Activities Performed by Transportation Management Centers and State and Local Transportation Organizations
Coordinate Response	▶ As appropriate/requested, provide field support for emergency responders at the scene, integrated through the ICS and communicated and coordinated with the traffic management center. ▶ Address emergency responder transportation needs and scene access support and staging requirements. ▶ Identify available transportation equipment, facilities, personnel, devices, and information to support emergency response. ▶ Assign transportation agency resources to move materials, personnel, and supplies as requested by responders. Track resource status. ▶ If appropriate, support hazardous materials containment response and damage assessment, using available capabilities coordinated with on-scene field response through the ICS. ▶ Attend regular briefings at incident site on situation, incident action plan, response objectives, and strategy, with full opportunity for transportation contributions and identification of resources and capabilities to support the response effort and action plan. ▶ Perform damage assessment duties for affected transportation system elements. ▶ Make decisions regarding closures, restrictions, and priority repairs. ▶ Coordinate assessments and decisions made regarding the operational capabilities of the transportation system with affected parties (emergency responders, local government, etc.) ▶ Initiate priority clean-up, repair, and restoration activities, including the use of contractors and emergency procurement authorities. ▶ Review/terminate existing work zone closures as necessary. ▶ Obtain incident status briefings, and anticipate changing conditions (wind direction, weather, plume direction, etc.) ▶ Based on all available information, develop detours and diversions (as necessary) to direct traffic safely away from the affected area and/or damaged infrastructure. ▶ Initiate traffic management operations and control strategies. ▶ Provide public information/traveler alerts on the status of the transportation system. ▶ Assign personnel to local/regional and state emergency operations centers to collaborate with public safety agencies and other agencies involved in disaster response and recovery efforts. ▶ Support communications between transportation personnel and their families/friends.
Restore Critical Services	▶ Coordinate roadway clearance activities. Remove and/or assist in debris removal and disposal, as appropriate, to provide emergency access to disaster areas or to assist in eliminating health and safety problems associated with debris. ▶ Prioritize recovery operations, and perform emergency repairs in the disaster area. ▶ Collaborate with other jurisdictions that are managing, supporting, or being impacted by the repair activities. ▶ Assist in the design and implementation of alternate transportation services, such as transit systems, to temporarily replace transport capacity that is lost because of disaster damage. ▶ Collaborate with efforts to restore utilities. Issue permits required to repair/restore utility lines or pipes. Provide needed equipment and/or technical assistance to support restoration of critical public works. ▶ Support event stabilization, traffic demand, and estimated traffic capacity at the time of stabilization. ▶ Support decontamination (short-term and mid-term), if necessary, using hazardous materials contractors and clean-up crews. ▶ Initiate commercial mode shifts and diversions (as appropriate).

Disaster Response Activities

Function	Representative Activities Performed by Transportation Management Centers and State and Local Transportation Organizations
Manage Area Transportation	▶ Monitor and control transportation systems and infrastructure, and coordinate transportation activities with other agencies (local, state, and federal). ▶ Monitor and coordinate the closure of high-risk facilities such as bridges, tunnels, or flood- and landslide-prone sections of roadway. ▶ Assist state and local government entities in determining the most viable available transportation networks to, from, and within the disaster area, and regulate the use of those networks for the movement of people, equipment, supplies, records, and so forth. ▶ Establish and manage emergency access for transport of emergency resources, including traffic control points, barricade plans, and potential one-way/reverse-lane operations. ▶ Provide any highway clearances and waivers required to expedite the transportation of high-priority materials and the evacuation of personnel during periods of declared emergencies. ▶ Manage unexpected capacity reduction on selected routes. ▶ Share disaster response and evacuation information among all allied agencies, including transportation agencies (e.g., traffic operations, maintenance, and transit) and nontransportation agencies (e.g., public safety and emergency management). ▶ Coordinate traffic control strategies supporting emergency response across jurisdictions. ▶ Coordinate transit service changes across jurisdictions.
Provide Traveler Information	▶ Provide information on road closures, infrastructure damage, debris removal, and restoration activities related to highway systems and facilities. ▶ Provide real-time traffic information and traffic reports for roads within the affected area or for roads leading into the area. ▶ Provide updated transit service information for the disaster area. ▶ Assign appropriate personnel at key disaster sites to oversee operations and to provide consistent, verified public information to emergency management agencies, public information officers, and the media.

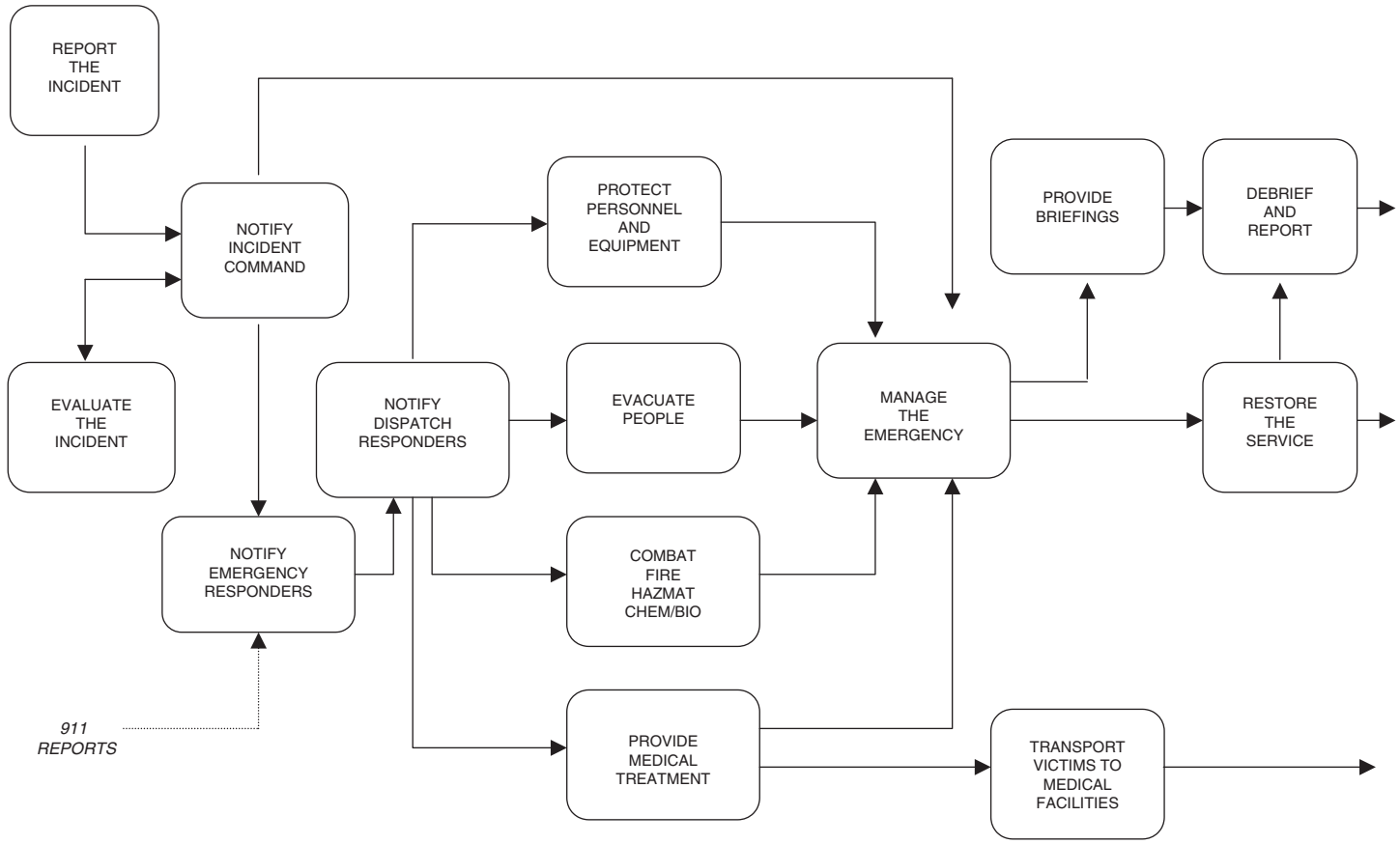
Evacuation Coordination Activities

Function	Representative Activities Performed by Transportation Management Centers and State and Local Transportation Organizations
Evacuation Planning Support	▶ Develop evacuation plans at the county, state, and multistate levels. Data must be collected and archived to develop these plans and to ensure the validation of the models used in developing the plans. The data shall include items such as traffic flow, speed, occupancy, traveler behavior, and a log of events. ▶ When possible, coordinate evacuation routes across jurisdictional boundaries. ▶ Improve management of the evacuation process through investigation of strategies that reduce transportation demand, including identifying shelters near evacuation origins, increasing the use of transit, and evacuating in shifts rather than all at once. ▶ Examine and modify evacuation route designs if necessary to accommodate evacuation management strategies. For example, reversible lane operations and the use of shoulders as an additional lane might require modifications to interchange designs. ▶ For situations where evacuation is not possible, develop plans to reconfigure the transportation system to manage the immediate transport of critical supplies to support shelter-in-place strategies. ▶ Establish policies, controls, and interfaces that support the lifting of toll and transit fees during evacuations. ▶ Develop evacuation plans that provide alternative routing for the possibility that a terrorist attack has rendered critical infrastructure or a quarantined area unavailable for evacuation. ▶ Provide evacuation planning for high-visibility events (e.g., Olympics) where there may be a great influx of visitors not normally accounted for in disaster evacuation scenarios. ▶ Provide for evacuation contingencies with respect to multiple and/or clustered disasters impacting evacuation in a relatively short timeframe.
Evacuation Preparedness	▶ Reduce the time required for implementation and set-up of various evacuation strategies through predeployment of equipment and personnel. ▶ Plan for the evacuation of those with special needs. This includes elderly people and people with disabilities, as well as hospitals and other institutions with resident populations. Transit plays a critical and unique role in meeting this need. ▶ Share current and forecast evacuation information with transportation, emergency management, law enforcement, and other allied agencies at the county, multicounty, and multistate levels.
Evacuation Traveler Information	▶ Provide a comprehensive public information strategy. Coordinate evacuation public information with emergency management, transportation, and other allied agencies so that consistent, accurate information is provided to evacuees. ▶ Provide real-time information to evacuees regarding ○ The services available at the evacuation destinations and along the evacuation routes; ○ The evacuation route conditions, such as incidents, road closures, lane closures, weather, expected travel time to destinations, route to destinations, and availability of alternative routes; ○ Conditions in the evacuees' home counties; ○ Available transit services supporting evacuation; and ○ Alternative evacuation destinations (for evacuees who request this information).

Evacuation Coordination Activities

Function	Representative Activities Performed by Transportation Management Centers and State and Local Transportation Organizations
Evacuation Traffic Management	▶ Efficiently use the available capacity to reduce the potentials for operational failures during evacuation. For example, review and terminate work zone closures where possible along the evacuation routes to maximize the capacity of these routes. Use transit services to the extent possible to optimize the use of available capacity. Operational failures can cause gridlock, long hours of delays, vehicle breakdowns, frustrated travelers, and significant risks to the evacuees. ▶ Improve management of the local streets that provide access to and from evacuation routes. The capacity of these streets should be increased and efficiently used to prevent creating bottlenecks at the access points. ▶ Improve the efficiency of detecting, responding to, and clearing incidents on evacuation routes. The drop in evacuation route capacities due to incidents could result in the failure of the evacuation process, even if the analysis performed during evacuation planning indicates that the routes can accommodate the traffic in nonincident conditions. ▶ Improve the warning and preparation information provided to evacuation destinations. Evacuee traffic information can be used by transportation management at the destination to preconfigure the systems to anticipate and better handle the increased demand. ▶ Provide shelter-in-place information, and use transportation agency resources to expedite relief to the endangered population in cases where evacuation is not possible because little or no warning is provided and/or because transportation agency resources are limited or severely impacted. ▶ Maintain emergency service access to the disaster area and to the evacuation routes themselves by providing for and managing emergency service access routes in the opposite direction and/or across the major evacuation routes where necessary. ▶ Improve management of evacuation termination under emergency circumstances. This includes decision support to determine when to terminate an evacuation, communication of salient emergency public information to motorists, and roadway management (including interchange shutdown, traffic diversion, and the opening of "refuges of last resort" or other safe havens). ▶ Ensure the efficient and safe reentry of the evacuees to their counties. This includes preventing unauthorized people from entering a disaster area, clearing dangerous debris, and restoring electricity. The reentry decisions must balance safety and security with the public's desire to return home.
Evacuation Resource Sharing	▶ Establish an effective information-sharing service that keeps all agencies in all affected jurisdictions appraised of the evacuation plan and evacuation status. ▶ If possible, coordinate resource requests and status/tracking through the same information-sharing capability. ▶ Ensure that resource requirements are accurately forecast based on the evacuation plans and that the necessary resources are located, shared between agencies if necessary, and deployed at the right locations at the right times. ▶ Make sure to have available the current status of all resources deployed to support the evacuation.

Public Transportation Emergency Response Activities



Emergency Exercises for Assessing Transportation Activities

Transportation Emergency Planning and Response Activities	Activity Can Best Be Assessed Using This Type of Emergency Exercise						
	Seminar	Workshop	Tabletop	Game	Drill	Functional Exercise	Full-Scale Exercise
Develop Mission Statement and Operational Concept for Transportation Agency Emergency Management	X	X	X				
Coordinate Local/Regional/State Response Plans and Evacuation Plans	X	X	X				
Develop Public Information Dissemination Strategies for Range of Conditions/Events	X	X	X				
Develop System to Monitor Threat Levels (Weather and Security)	X	X	X	X			
Develop Transportation Emergency Operations Plans and Procedures		X	X	X			
Develop Transportation Training to Support Plans and Procedures	X	X	X	X			
Detect Events			X	X	X	X	X
Verify Events			X	X	X	X	X
Notify the Appropriate People/Organizations			X	X	X	X	X
Assess Situations			X	X	X	X	X
Evacuate Passengers and Facilities					X	X	X
Manage Casualties						X	X
Protect Property/Equipment					X	X	X
Evaluate/Combat Dangers at Incident Scene						X	X
Develop Operations Objectives and Strategies			X	X	X	X	X
Integrate with Local/Regional Incident Management System			X	X	X	X	X
Coordinate Transportation Field Response			X	X	X	X	X
Protect Scene and Control Traffic					X	X	X
Provide Support for Emergency Responders	X	X	X	X	X	X	X
Develop Area Traffic Control Strategies				X	X	X	X
Manage Evacuation Traffic				X	X	X	X
Coordinate and Monitor Evacuation				X	X	X	X
Provide Incident Management of Evacuation Routes				X	X	X	X
Stabilize Events						X	X
Restore Critical Services						X	X
Facilitate Traffic/Evacuation Re-Entry				X	X	X	X
Manage Area Transportation					X	X	X
Dissipate Traffic					X	X	X
Restore Transportation Service				X	X	X	X

Abbreviations used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NCHRP	National Cooperative Highway Research Program
NCTRP	National Cooperative Transit Research and Development Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation