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**TCRP** Synthesis 27

# Emergency Preparedness for Transit Terrorism

**A Synthesis of Transit Practice**

**Transportation Research Board**
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# Synthesis of Transit Practice 27

## Emergency Preparedness for Transit Terrorism

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**TRANSIT COOPERATIVE RESEARCH PROGRAM**

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 Federal lished in 1987 and based on a study sponsored by the Federal Transit Administration (FTA). A report by the American Public Transit 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 vice 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 Academy of Sciences, 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 anytime. It is the responsibility of the TOPS Committee to formulate the re-search 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. TCRP results support and complement other ongoing transit research and training programs.

**NOTICE**

The project that is the subject of this report was a part of the Transit Cooperative Research Program conducted by the Transportation Research Board h the approval of the Governing Board of the National Research Council. Such approval reflects the Governing Board's judgment that the project concerned is appropriate with respect to both the purposes and resources of the National Research Council.

The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the Transit Development Corporation, the National Research Council, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

**Special Notice**

The Transportation Research Board, the Transit Development Corporation, the National Research Council, and the Federal Transit Administration (sponsor of the Transit Cooperative Research Program) do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the clarity and completeness of the project report.

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A vast storehouse of information exists on many subjects of concern to the transit industry. This information has resulted from research and from the successful application of solutions to problems by individuals or organizations. There is a continuing need to provide a systematic means for compiling this information and making it available to the entire transit community in a usable format. The Transit Cooperative Research Program includes a synthesis series designed to search for and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in subject areas of concern to the transit industry.

This synthesis series reports on various practices, making specific recommendations where appropriate but without the detailed directions usually found in handbooks or design manuals. Nonetheless, these documents can serve similar purposes, for each is a compendium of the best knowledge available on those measures found to be successful in resolving specific problems. The extent to which these reports are useful will be tempered by the user's knowledge and experience in the particular problem area.

This synthesis will be of interest to transit agency general managers, transit police, security professionals, safety departments, and transit agency personnel in operations, maintenance, procurement, and administration, as well as to local, state, and federal law enforcement and emergency preparedness agencies such as the FBI and BATF. It provides a useful perspective on mass transit preparedness, offering information on the current practices of selected transit agencies to prevent and respond to terrorism and acts of extreme violence. This synthesis contrasts transit perspectives to those of general service police through a review of the relevant literature.

Administrators, practitioners, and researchers are continually faced with issues or problems on which there is much information, either in the form of reports or in terms of undocumented experience and practice. Unfortunately, this information often is scattered or not readily available in the literature, and, as a consequence, in seeking solutions, full information on what has been learned about an issue or problem is not assembled. Costly research findings may go unused, valuable experience may be overlooked, and full consideration may not be given to the available methods of solving or alleviating the issue or problem. In an effort to correct this situation, the Transit Cooperative Research Program (TCRP) Synthesis Project, carried out by the Transportation Research Board as the research agency, has the objective of reporting on common transit issues and problems and synthesizing available information. The synthesis reports from this endeavor constitute a TCRP publication series in which various forms of relevant information are assembled into single, concise documents pertaining to a specific problem or closely related issues.

This report of the Transportation Research Board reports the expressed concerns of surveyed transit agencies. A sizable majority of transit police and operations personnel regard terrorism as a serious threat and recent experience and training have encouraged

transit personnel to assume more responsibility for activities to mitigate terrorism and improve related emergency response capabilities.

To develop this synthesis in a comprehensive manner and to ensure inclusion of significant knowledge, available information was assembled from numerous sources, including a number of public transportation agencies. 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 synthesis report.

This synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that now at hand.

# CONTENTS

# EMERGENCY PREPAREDNESS FOR TRANSIT TERRORISM

**SUMMARY**

This synthesis provides information on the current practices of transit agencies to prevent and respond to terrorism and acts of extreme violence. It integrates information gathered from a review of the literature, and from surveys, site visits, and telephone interviews with personnel from transit police and security departments, local police agencies, transit authorities, and federal law enforcement agencies, including the Federal Bureau of Investigation (FBI) and the Bureau of Alcohol, Tobacco, and Firearms (BATF). In addition, to provide a useful perspective on mass transit preparedness, this synthesis contrasts transit perspectives to those of general service police through a review of relevant literature.

Since 1993, mass transit systems and infrastructure in the United States have figured prominently in four acts of terrorism and extreme violence. The Long Island Rail Road shootings, the World Trade Center bombing (which destroyed sections in the primary New York terminus of the bi-state Port Authority Trans-Hudson commuter system), the sabotage induced derailment of Amtrak's *Sunset Limited* in Arizona, and the Fulton Street firebombings succinctly demonstrate the vulnerability of the U.S. transportation infrastructure to acts of terrorism and extreme violence. Combined, these acts resulted in 14 fatalities and more than 1,000 injuries.

Internationally, the vulnerability of public transportation agencies is even more pronounced. Over the last 2 years, foreign transit agencies experienced the devastating consequences of terrorist acts. Bombings of the Paris Metro by Islamist militants resulted in hundreds of casualties, system disruption, and declines in ridership. Sarin gas attacks in the Tokyo subway system marked the first time chemical or biological weapons have been deployed on a large scale by terrorists.

While terrorist assaults against transportation targets are not new, revised assessments from the intelligence community indicate that the threat of terrorism directed against subways, buses, and railways has increased in recent years. The emergence of both domestic terrorist groups and loose networks of émigrés receiving support and direction from hostile foreign powers (such as the group responsible for the World Trade Center bombing) means that, for the first time, highly motivated and capable extremists committed to terrorism have developed the capacity to sustain terrorist actions within U.S. borders. These groups have easy access both to transportation targets and to the materials required to assemble and deploy explosive devices capable of catastrophic impact. Further, U.S. intelligence evaluations have identified vulnerabilities in the national mass transportation infrastructure.

The synthesis survey results confirm that a sizeable majority of transit police and operations personnel regard terrorism as a serious threat. Survey respondents are most concerned with the identification and possible detonation of explosive devices on their systems, vehicle hijackings, hostage/barricade situations, and the possibility of shootings with multiple victims. While most respondents acknowledge the importance of chemical, biological, or nuclear (CBN) threats against their agencies, these threats are perceived as less immediate than those derived from more traditional forms of terrorism involving explosives and firearms.

Survey respondents generally consider urban rail, commuter rail, and rail terminals to be at the greatest risk of being targeted.

Recent experience and training have encouraged transit personnel to assume more responsibility for activities to mitigate terrorism and improve related emergency response capabilities. Many respondents have initiated system security programs to protect passengers, employees, and facilities from the most devastating consequences of a terrorist act.

These programs focus on improved linkages to local, state, and federal law enforcement agencies; heightened awareness training; and the integration of terrorist response and consequence management skills into system emergency procedures. The programs increase the possibility of the prevention and deterrence of terrorist incidents, improve the effectiveness of response if an incident occurs, and maximize the opportunity to organize and cooperate with local, state, and federal agencies, all of whom have a role in combating terrorism. Most agencies surveyed believe that they are well prepared or somewhat prepared to manage a terrorist incident.

All transit agencies participating in this synthesis reported a shared agency responsibility for terrorism mitigation and response. Transit police/security professionals, safety departments, and transit agency personnel in operations, maintenance, procurement, and administration all play a role in developing the plans, policies, and procedures that direct counterterrorism programs at their agencies. In addition, many transit agencies surveyed appropriately rely on a significant level of support from local and state law enforcement and emergency management agencies, as well as federal agencies, such as the FBI and the BATF.

FBI statistics point to low levels of terrorist activity in the United States. From 1991 through 1995, 22 terrorist incidents, five suspected terrorist incidents, and 13 terrorism preventions were reported by the FBI. However, many agencies participating in both surveys and site visits believe that the perception created by these figures does not accurately capture the level of terrorist activity and acts of extreme violence in the United States. In particular, transit police and operations personnel remain concerned about potential and actual terrorist acts committed by right-wing (neo-Nazi, religious, tax-resisting, etc.) and issue-specific (animal rights, environmental, anti-abortion, etc.) terrorist groups.

Transit police at more than half of the responding agencies (60 percent) report having primary responsibility for investigating reported acts of terrorism or extreme violence. To meet this responsibility, transit police track, analyze, and investigate potential and actual terrorist activity, perform surveillance, prepare and serve search warrants and other judicial procedures, and engage in liaison with appropriate local, state, and federal law enforcement and prosecutorial agencies concerned with terrorism prevention and response. The remaining respondents rely on local or state police to perform terrorism or terrorism related investigations.

Site visits conducted for this synthesis confirm in greater detail what the survey revealed in general terms. In response to perceived increases in the threat of terrorism directed against mass transit systems, transit police and operations personnel are improving emergency response capabilities and initiating security programs to increase terrorism deterrence features. Transit agencies are also building new relationships with local, state, and federal law enforcement agencies to improve threat intelligence and planning and response capabilities.

CHAPTER ONE

# INTRODUCTION

The changing nature of terrorism presents new challenges for U.S. public transportation agencies. A primary mission of each transit agency is to ensure, to the fullest extent possible, the security of passengers, employees, and agency property. Each year, U.S. public transportation agencies carry more than 8 billion passengers and employ almost 300,000 people. The U.S. mass transit infrastructure is currently valued at more than $1 trillion *(1)*. Transit police, security, and agency personnel, in cooperation with local police departments, implement a variety of security programs to protect transportation agencies, their customers, and employees. Collectively, these programs have demonstrated considerable effectiveness in reducing violent crime and improving customer perceptions of security *(2-4)*. However, these programs, designed to manage traditional security concerns, must now address the emerging threat of transit terrorism.

This synthesis describes the practices of transit agencies to mitigate and respond to acts of terrorism. Special emphasis was placed on identifying and describing practices developed by urban rail, commuter rail, and bus agencies to address the changing threats to security. This synthesis integrates information gathered from

- A review of the literature,
- A detailed survey of 42 transit police, local police, and security departments,
- Site visits with police departments responsible for transit counterterrorism programs at five large rail, bus, and commuter rail agencies, and
- Telephone interviews with transit police and security departments, local police departments, emergency services organizations, the Federal Bureau of Investigation (FBI) and the Bureau of Alcohol, Tobacco, and Firearms (BATF).

Security constraints and the confidentiality of anti- and counterterrorism initiatives often result in transit agencies working in relative isolation. Industry standards do not exist to guide appropriate terrorism planning, training, and response activities. This synthesis assists transit operators, police, and security personnel by identifying the common base of knowledge, gathering professional assessments, and sharing information on terrorism mitigation and response programs.

## THE CHANGING NATURE OF TERRORISM IN THE UNITED STATES: AN OVERVIEW

The terrorist threat in the United States is changing. Before Oklahoma City and the World Trade Center, before Atlanta's Olympic Park and Amtrak's *Sunset Limited,* terrorism was considered primarily a risk for those U.S. citizens living and traveling abroad. "Terrorists" were primarily from other nations, often members of state-sponsored groups affiliated with "outlaw" states, such as Iran, Iraq, Syria, or Lybia. These terrorists generally used a limited arsenal of weapons to hijack airplanes and cruise liners, to take hostages, to attack military compounds and diplomatic embassies, and to wage guerrilla wars in far away lands. "Terrorism" was largely the chosen tool of disenfranchised Third World populations, struggling for attention and authority in a precariously balanced Cold War world.

However, in the 1990s, with the Cold War's end, the "artificial and superficial equilibrium" *(5)* imposed by the United States and the former Soviet Union has disintegrated. Liberated from the confines of Cold War power relations, no longer beholden to superpowers and their client states, new political actors, embracing emerging ideologies are seeking new targets. With access to an increasingly dangerous array of weapons, their efforts can now influence political and social discourse in the United States and around the world in new ways. Analysts have dubbed this changing environment "the new world disorder" *(5)*.

The disenfranchised, both at home and abroad, now appear more willing to use the tools of terror against civilian targets with increasing violence and casualties. Within the republics of the former Soviet Union, the control exerted by Moscow over ethnic and nationalist movements has given way to new separatist demands often accompanied by political violence, including terrorism, various forms of low-intensity conflict, rapidly growing organized crime, and civil war. France, England, Germany, India, Pakistan, Japan, and China have all experienced growing instances of terrorism and public violence resulting from ethnic and religious disputes. Perhaps most unexpectedly, in the United States, terrorism is beginning to be seen as a means through which to escalate political and economic struggles.

"Home-grown terrorists," members of neofascist organizations, militias, cults, and issue-oriented groups, are apparently more willing to express their rejection of the existing social, economic, and political order through attacks on government facilities, health clinics, multistory buildings, shopping malls, and public services. This potential was demonstrated most dramatically during the 1995 bombing of the Murrah Federal Building in Oklahoma City. In addition, large immigrant communities located in major metropolitan areas may provide fertile ground for domestic terrorism. Loose groups of émigrés, like those responsible for the World Trade Center bombing, have established complex and difficult-to-penetrate networks through which to receive support and direction from hostile foreign powers, and can effectively transport international conflicts within U.S. borders. The emergence of these two types of groups indicates that highly motivated and prepared extremists committed to terrorism have developed the capacity

4

to sustain terrorist actions within the United States. These groups have easy access both to domestic targets and the materials required to assemble and deploy explosive devices capable of catastrophic impact. Further, with the break-up of the Soviet Union, the availability of chemical, biological, and nuclear (CBN) weapons has increased. Weapons of unthinkable power now appear within the grasp of those more willing to use them.

## TRANSIT TERRORISM

The evolution of terrorism has consequences for all sectors of U.S. society. While all sectors are vulnerable to the changing nature of modem terrorism, public transportation is particularly susceptible. According to the United States Department of Transportation (USDOT), Office of Intelligence and Security (OIS), since 1991, public transportation has been the target of 20 to 35 percent of worldwide terrorist attacks (6).

In 1996, OIS reported 700 violent attacks against all modes of transportation worldwide. This was the highest number of attacks since OIS began collecting and analyzing data in 1991, and the 700 attacks recorded represents a 30 percent increase over 1995. According to OIS findings, buses and rail remain the targets of choice for terrorists, accounting for 34 percent of all violent acts against transportation. OIS also reports that the greatest number of casualties occurred against bus and rail systems, 1,577 and 1,089 respectively. In addition to OIS findings, attacks against transportation and transportation infrastructures accounted for nearly one-third (92) of the 296 international terrorist attacks reported by the U.S. State Department.

While many transit agencies are assuming a larger role in both terrorism mitigation and response efforts, the transit industry as a whole is assessing its responsibilities in the face of a rising terrorist threat. After all, transit agencies are in the business of "moving people," not fighting terrorism. Of the approximately 500 transit agencies in this country, fewer than 100 have formal transit police or security departments to direct counter-terrorism initiatives. Many of these departments have limited access to the resources and expertise necessary to establish and maintain counterterrorism programs. Further, the transit environment, comprised of large vehicle fleets, stations, stops, and other facilities that remain open to the public, is difficult, if not impossible, to defend. This synthesis provides information concerning issues central to each transit agency's effort to evaluate its response to the emerging terrorist threat:

- Improving awareness of likely terrorist threats, including CBN scenarios,

- Determining jurisdictional responsibility for preventing and responding to terrorist acts,
- Building coordination with local, state, and federal law enforcement and emergency response organizations to support both prevention and response activities,
- Identifying, testing, and selecting technology to support counterterrorism initiatives, and
- Obtaining accurate and timely intelligence concerning terrorist organizations, motivations, and threats.

## SYNTHESIS ORGANIZATION

Since a large-scale terrorist event is likely to require assistance from a number of emergency management agencies at all levels of government, experienced practitioners encourage those involved in terrorism prevention and response to incorporate the four generally recognized phases of emergency management to organize counterterrorism programs:

1. *Mitigation*--Activities performed in advance to reduce or eliminate threats.
2. *Preparation*--Activities performed in advance to develop esponse capabilities.
3. *Response*--Activities performed after a crisis occurs to save lives, protect property, and stabilize the situation.
4. *Recovery*--Activities performed after a crisis has been stabilized to return all systems to normal.

After presenting general information on survey results (chapter 2) and emerging terrorist threats (chapter 3), this synthesis provides information on necessary activities for each emergency management phase: mitigation and preparation (chapter 4); response (chapter 5); and recovery (chapter 6).

This report concludes with recommendations for further actions to improve the level of transit terrorism preparedness. Appendixes provide additional information to support practices identified in this report, and include

- Survey Questionnaire and Aggregate Survey Results (Appendix A)
- List of Participating Transit Agencies (Appendix B)
- Special Issues: Bomb Threats and Suspicious Packages, Vehicle Hijacking and Hostage/Barricade Situation, Employee Sabotage, and Threats to Information Systems and Virtual Terrorism (Appendix C)
- Emergency Response Tools (Appendix D)
- Technology Resources (Appendix E).

CHAPTER TWO

## SYNTHESIS SURVEY RESULTS

This chapter presents the results of a survey administered to 60 large and medium-size public transportation agencies located in all geographic areas of the United States. Appendix A is a copy of the survey questionnaire and the full survey results.

To capture information from public transportation systems, surveys for this synthesis were mailed to four categories of agencies:

- Domestic rail and bus agencies (operating one or both modes),
- Domestic commuter rail agencies (operating exclusively commuter rail),
- Domestic ferry systems, and
- International systems (only Canadian systems responded).

In general, large transit agencies with transit police, local police, or security departments were selected for inclusion in the survey. however, a few smaller bus agencies were also surveyed to address their unique experiences, perceptions, and activities. In all cases, the larger agencies participating in this survey had more experience than their smaller counterparts, both with

actual incidents and threats of terrorism, and in the development and implementation of counterterrorism programs.

The written survey yielded an overall response rate of 70 percent. (See Figure 1 for more detail). Nine of the nation's 10 largest public transportation agencies participated in the survey. Thirty-one of the 42 agencies submitting responses provide some type of passenger rail service (in most cases, bus service is also provided); 10 agencies provide bus service exclusively; and 1 responding agency provides ferry service.

## DEFINING TERRORISM IN THE TRANSIT ENVIRONMENT

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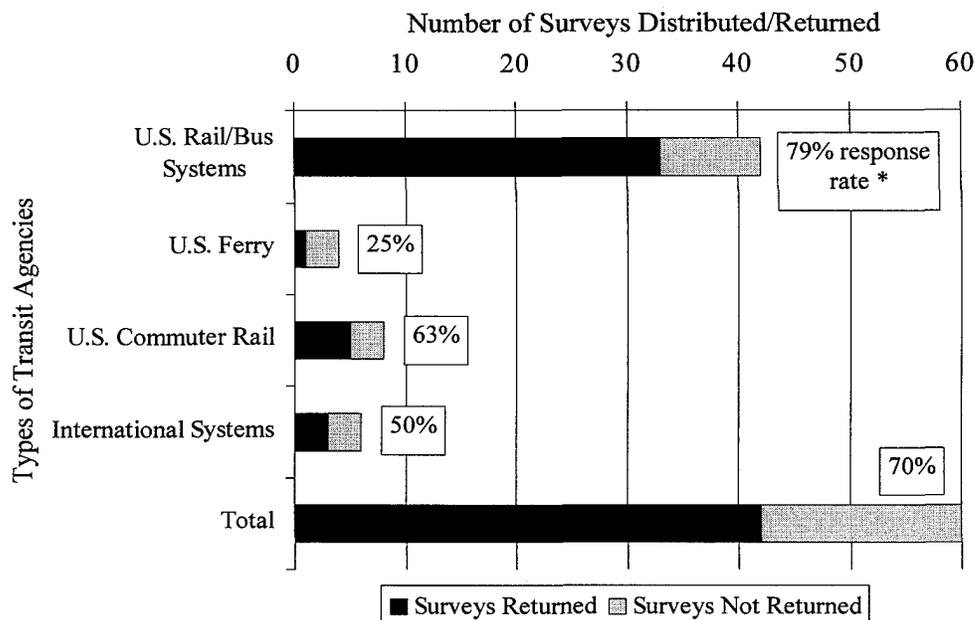


* Survey response rate for each type of agency indicated.

FIGURE 1  Surveys distributed to and returned by participating transit agencies.

6

In the United States, there is no federal or state crime specifically called "terrorism." Perpetrators of terrorism are convicted of associated crimes, such as murder, weapons or explosives violations, and destruction of property. However, to ensure that acts of terrorism, such as the Oklahoma City bombing or the World Trade Center bombing, are appropriately identified and investigated, the FBI has been given jurisdiction over terrorism in the United States. The FBI defines a terrorist incident as:

A violent act, or an act dangerous to human life, in violation of the criminal laws of the United States or of any State, to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives *(7)*.

Generally, to investigate an act of terrorism, the FBI requires three components:

- *Motivation*--A clear political or social agenda,
- *Perpetrators*--A conspiratorial dimension involving a group(s) or two or more individuals, and
- *Means*--The use or threat of force or violence *(8)*.

Because of this interpretation, FBI statistics point to low levels of terrorist activity in the United States. During the 5 years from 1991 through 1995, 22 terrorist incidents, five suspected terrorist incidents, and 13 terrorism preventions meeting the FBI definition were reported *(9)*.

In some cases, this interpretation excludes many violent acts that others who cope with the consequences of extreme

violence believe should be included. BATF statistics provide a different perspective on the extent of violence in the United States. Between 1991 and 1995, 13,708 actual or attempted U.S. criminal bombings were reported. (See Figure 2 for a comparison of FBI and BATF statistics.) While these incidents involve motives ranging from personal dissatisfaction to gang rivalry to extortion and insurance fraud, the number of bombings indicates the clear willingness of individuals and groups to use explosives to resolve disputes, to intimidate populations, and to further personal gain. Based on both the prevalence of explosives in U.S. society and the wide range of motivations for using them, many transit police organizations, like their municipal counterparts, consider a broader range of activities as falling within the terrorist spectrum than specified in the FBI interpretation.

To address this operating reality, a more inclusive definition of terrorism, more applicable to the transit environment, was used in this synthesis. This definition includes both acts of terrorism (according to the FBI definition) and quasi-terrorist acts, defined as those acts incidental to the commission of crimes of violence that are similar in form and method to terrorism, but lack an organized social, political, religious, or economic dimension.

In all activities for this project, the phrase "acts of terrorism and extreme violence" includes both terrorism and quasiterrorism. All questions concerning perceptions, experience, emergency preparedness, and planning and response capabilities were directed toward an inclusive definition comprising terrorism and quasi-terrorism.
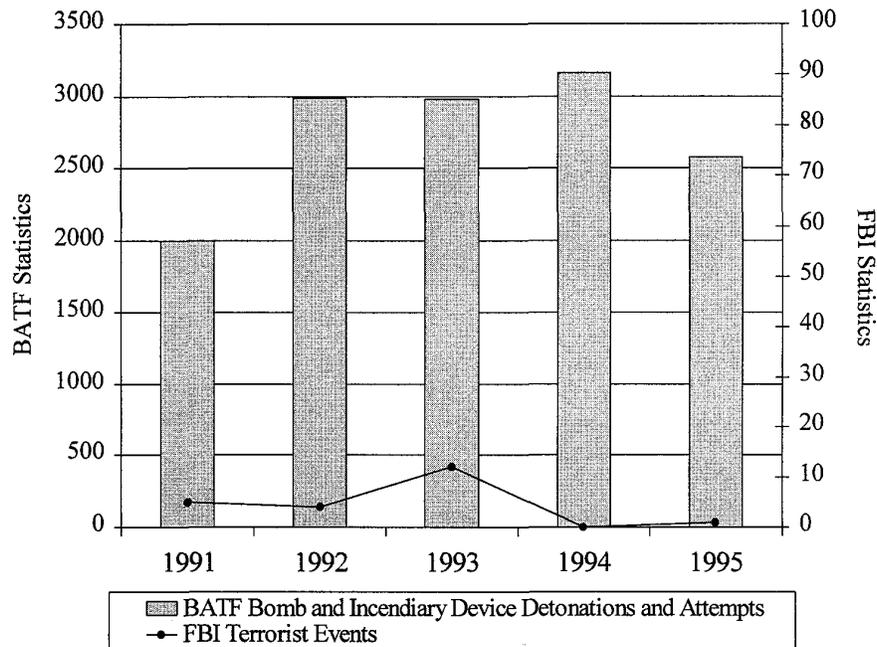


FIGURE 2  Bomb and incendiary device detonations reported by BATF versus terrorist events reported by the FBI between 1991 and 1995.

Do you consider the current threat of terrorism in the United States to be greater, less than, or the same as it was five years ago?
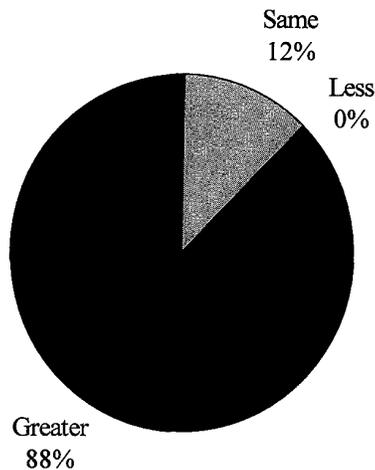
Do you consider the threat of terrorism against transit agencies in the United States to be greater, less than, or the same as it was five years ago?

Same 12%
Less 0%
Greater 88%

Same 32%
Less 0%
Greater 68%
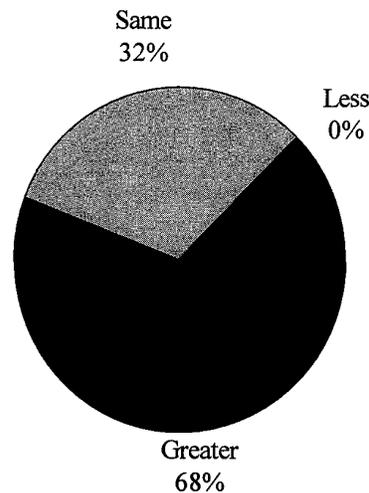
FIGURE 3  Overall perceived terrorist threat assessment by participating transit agencies.

## PERCEPTIONS OF TRANSIT TERRORISM

Survey results indicate that a sizable majority of transit police and operations personnel regard terrorism as a serious threat; all agencies surveyed believe that terrorism presents a threat equal to or greater than it did 5 years ago. Similarly, all transit agencies surveyed believe that the threat of terrorism directed against transit systems is equal to or greater than the threat 5 years ago. (See Figure 3 for more detail).

Survey respondents are most concerned with the detection and possible detonation of explosive devices on their systems. Additional concerns for terrorist or quasi-terrorist activity over the next 5 years include vehicle hijackings, hostage/barricade situations, employee sabotage, and shootings with multiple victims.

While most respondents acknowledged the importance of CBN threats against their systems, these threats were perceived as less immediate than those resulting from more traditional forms of terrorism or extreme violence involving explosives and firearms. Forms of electronic warfare, such as "virtual terrorism" or breeches of essential computer systems, are perceived as being the least likely to occur during the next 5 years. Figure 4 presents these survey results.

Local and transit police and operations personnel responding to the survey generally consider urban rail, commuter rail, and bus and rail terminals to be at the greatest risk of being targeted in a terrorist event. Bridges and tunnels are perceived to be at a slightly lesser degree of risk. Bus vehicles and ferries are considered the least likely targets for terrorism. Figure 5 presents these results.

## TRANSIT AGENCY EXPERIENCE WITH TERRORISM AND ACTS OF EXTREME VIOLENCE

All transit agencies contacted for this synthesis reported a shared agency responsibility for terrorism prevention and response. Local police, transit police, security personnel, safety departments, and transit agency personnel in operations, maintenance, procurement, and administration all play a role in developing the plans, policies, and procedures that direct system anti- and counterterrorism programs. In addition, many transit agencies surveyed rely on a significant level of support from local and state law enforcement and emergency management agencies, as well as federal agencies, such as the FBI and the BATE. For example, transit agencies receive training, resource materials, handbooks, literature, assistance with emergency response planning, technical expertise, and intelligence from outside agencies.

Survey respondents provide transit service in states with identified terrorist groups including

- Right wing (e.g., antifederalist, racist, anti-Semitic, tax-resisting),
- Left wing (e.g., revolutionary, Marxist-Leninist),
- International (e.g., foreign terrorist groups, or groups sponsored by foreign governments),
- Ethnic/Emitter (e.g., terrorist groups from ethnic or emitter communities within the United States), and
- Issue-specific (e.g., animal rights, environmental, antiabortion).

8
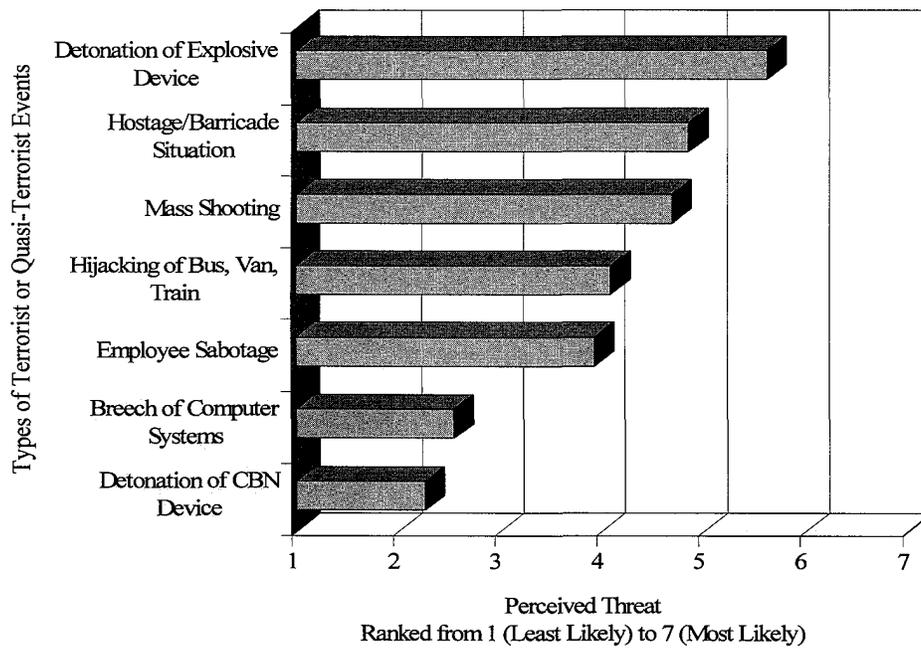


FIGURE 4 Types of terrorist and quasi-terrorist events perceived by transit agency personnel to present the greatest threats over the next 5 years.
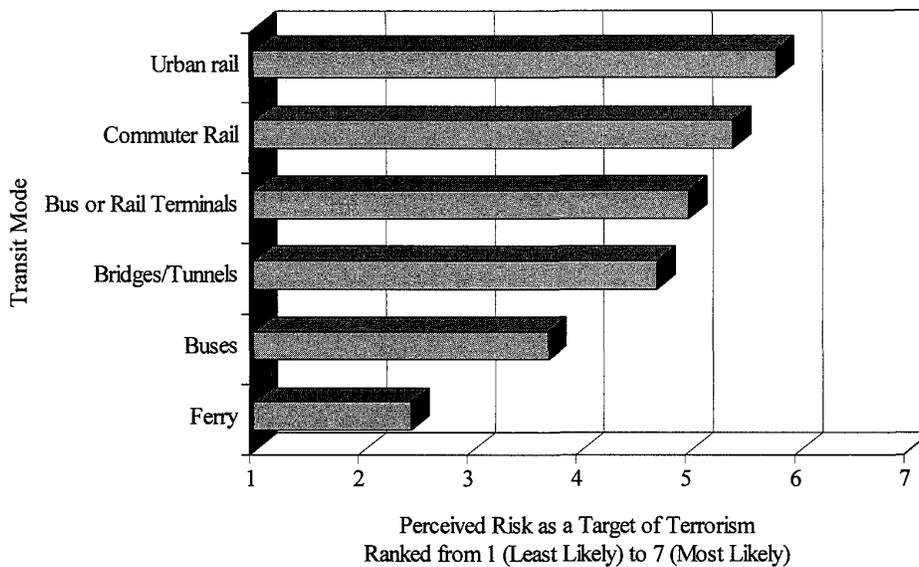


FIGURE 5 Transit modes perceived by participating transit agencies to present the greatest risk of becoming a target of terrorism.

Seventy-one percent of respondents identified at least one terrorist group located in their state, and 33 percent identified at least one of these groups located in their service areas. Local and transit police and operations personnel remain particularly concerned about potential and actual terrorist acts committed by right-wing and issue-specific groups. Figure 6 details related survey responses.

These survey results are similar to other results obtained from state and general service local law enforcement. According to a 1995 study of state and local terrorism preparedness issued by the And Corporation, nearly 80 percent of state law enforcement agencies responding to their survey noted the presence of an identified terrorist group in their jurisdiction.
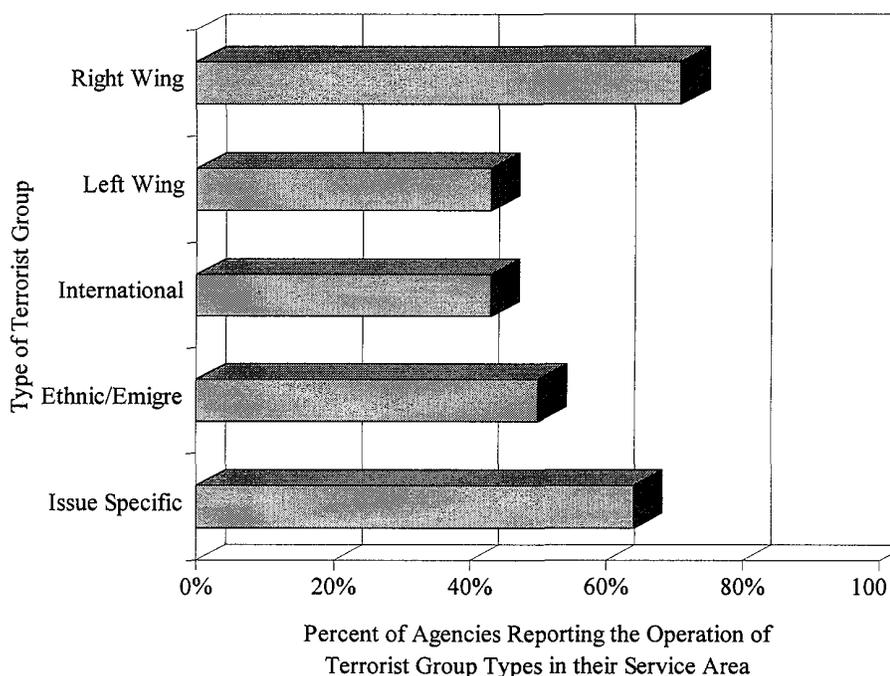
FIGURE 6 Terrorist groups operating in participating transit agencies' states.

Almost all transit agencies responding to the survey performed in this synthesis reported bomb threats at their agencies. Almost half had experienced hate crimes. Many agencies reported acts of employee sabotage; however, in general, these acts typically affect vehicle operations rather than the safety of passengers. Most acts of sabotage are discovered before vehicles are put into service and are not necessarily reported to the police. Approximately 30 percent of agencies reported vehicle hijackings. Many had identified some type of device (explosive, chemical, or biological) on their system, but few had experienced the detonation of any device. In fact, five percent of survey respondents reporting the identification of a chemical or biological device referred to common chemicals, such as mace, pepper spray, or tear gas, not CBN warfare agents. Figure 7 presents these findings.

At approximately 60 percent of responding agencies, transit police reported having primary responsibility for investigating *reported* acts of terrorism. (Once an incident is classified as an act of terrorism, the FBI would have primary responsibility.) Transit police, security, and agency personnel play important roles in efforts to track, analyze, and investigate potential and actual terrorist activity. Transit police agencies perform surveillance, prepare and serve search warrants, and engage in liaison with appropriate local, state, and federal law enforcement and prosecutorial agencies concerned with terrorism prevention and response. Twenty-nine percent of respondents have participated in a terrorist or terrorist related investigation during the past 5 years. This finding mirrors results from the And study, which indicates that 26 percent of local police departments surveyed have participated in these investigations over the past 5 years *(12).*

Most agencies surveyed believe that they are well prepared or somewhat prepared to respond to a terrorist incident (see Figure 8). Approximately 15 percent believe that they are not well prepared.

## EMERGENCY AND PRE-INCIDENT PLANNING

Forty-three percent of respondents have developed an Incident Response Plan specifically for terrorism. Seventy-nine percent of respondents have a general Emergency Plan to direct system response to a wide range of emergency situations (e.g., fires, floods, earthquakes, blizzards, derailments, power outages, etc.). These plans, to varying degrees, also guide response to a terrorist incident. Most of these plans include the following agencies:

- Local police departments (93 percent),
- Local fire and emergency medical services (OEMs) (86 percent),
- State and local emergency management agencies (60 percent),
- Local hospitals (57 percent), and
- State law enforcement (50 percent).

Figure 9 summarizes these results. Sixty-one percent of Emergency Plans are supported by formal memoranda of understanding with local police departments. Only nine percent of respondents have no plan to guide emergency response activities.

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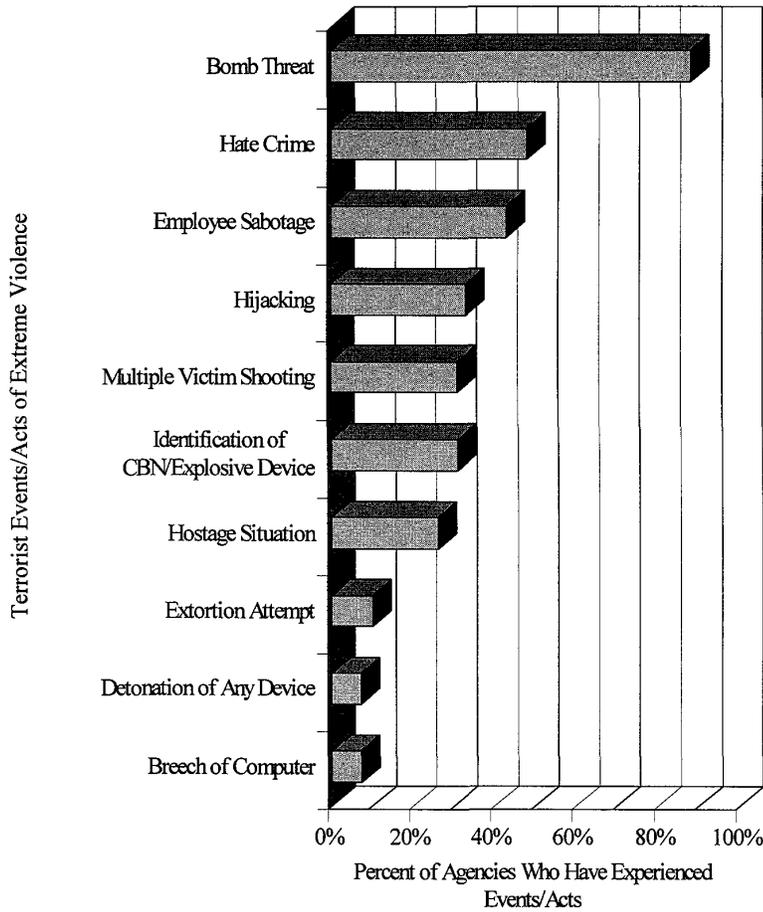


FIGURE 7 Participating transit agency experiences with terrorist events and acts of extreme violence.
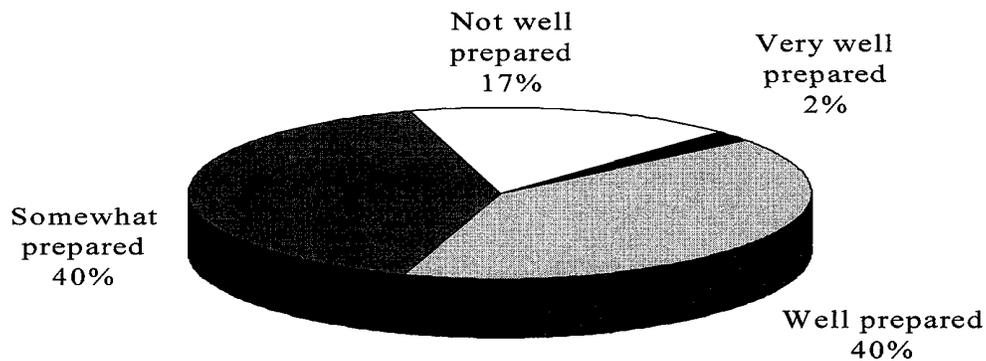


FIGURE 8 Participating transit agencies' assessments of their preparedness to address terrorist events.

Surveyed agencies participate in additional pre-incident planning activities, including

• Maintenance of ongoing threat assessment programs (29 percent),

• Cataloging of previous threats against the system (60 percent),

• Developing and using decision-making tools such as checklists and worksheets to manage threats against the system (60 percent), and
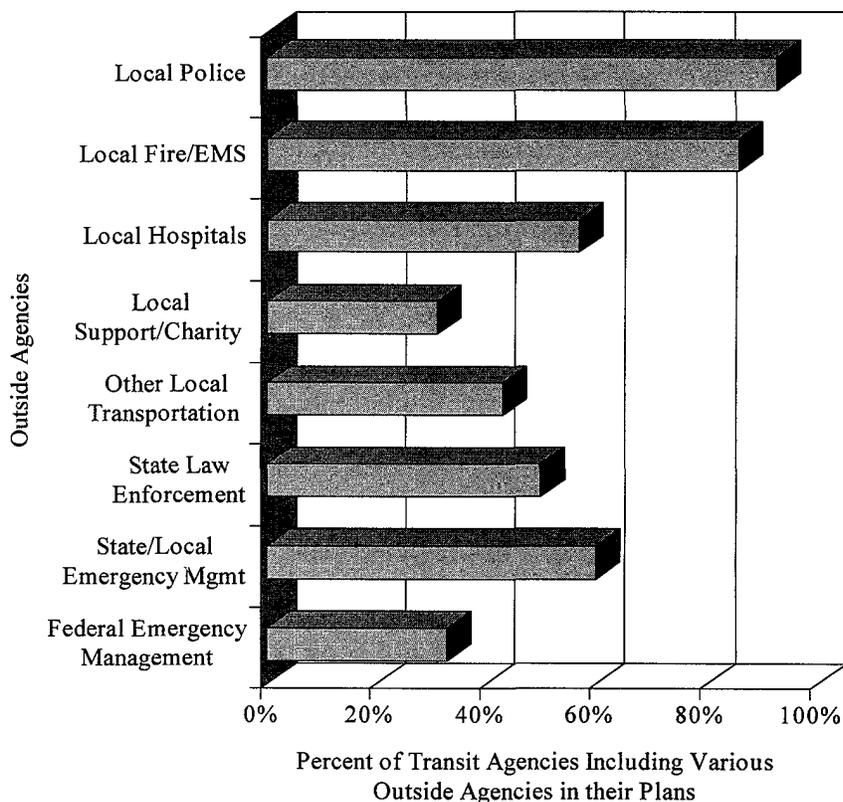
FIGURE 9 Percentage of participating transit agencies with Incident Response Plans or Emergency Plans that include various outside agencies.

- Establishing mechanisms to relay the capacity of vehicles and stations to police and other emergency responders (79 percent).

Survey respondents have also developed enhanced operational plans to address the following:

- Bomb threat management (90 percent),
- Hostage/barricade response (40 percent),
- Control Center defense (19 percent),
- Bus bridge implementation (60 percent), and
- Obtaining replacement equipment (29 percent).

Seventy-one percent of respondents maintain regular links with other transit agencies regarding threat posture. Ninety-three percent of respondents have received threat warning circulars from the Federal Transit Administration (FTA) or the USDOT OIS.

## COORDINATION WITH LAW ENFORCEMENT AND EMERGENCY RESPONSE AGENCIES

Effective measures to prevent, combat, and respond to terrorism require close collaboration and cooperation among law enforcement agencies at local, state, and federal levels. As indicated in Figure 10, transit police and operations personnel engage in information exchange concerning terrorism issues with

local police, state police, emergency medical services (OEMs) and hospitals, and federal agencies.

Effective management of mutual-aid resources during an emergency must be guided by an enhanced command and control architecture. Seventy-eight percent of survey respondents use the Incident Command System (ICS) or a similar incident management structure for organizing response to emergencies (including terrorist events), disasters, and accidents. Many of these emergency management systems include procedures for incident notification, deployment of personnel to the scene, chain-of-command and interagency relations and communication, triage and treatment of casualties, and improved agency recovery of operations.

## COUNTERTERRORISM TRAINING FOR TRANSIT AGENCIES

To support effectively integrated command systems, survey respondents receive emergency management training (69 percent) and conduct function-specific training to reinforce awareness of the responsibilities and communication protocols to be used during response to an emergency (52 percent). To improve coordination and response from external agencies, survey respondents provide transit familiarization training to local police and special operations units, e.g., Special Weapons and Tactics (SWAT), fire departments, OEMs, and the FBI (see Figure:11). Twenty-six percent of respondents participate in
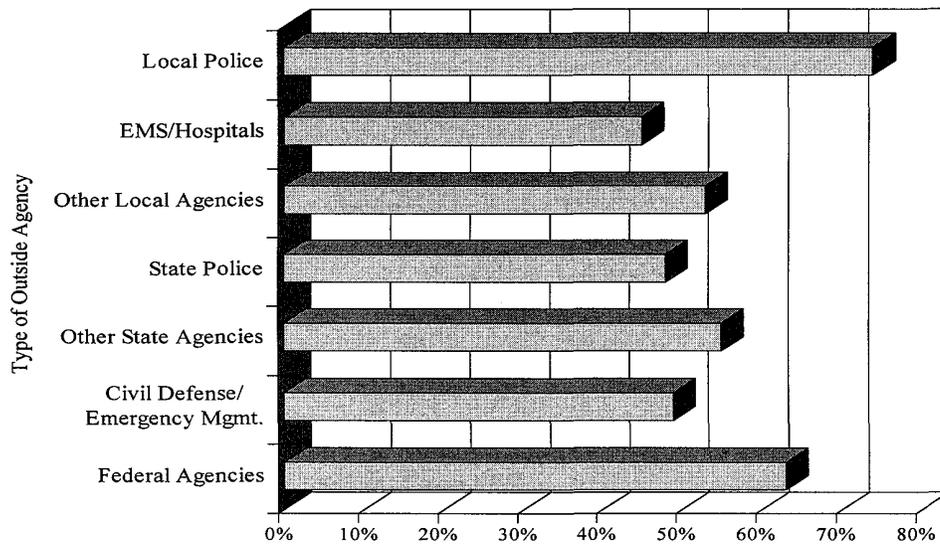
Percent of Transit Agencies Maintaining Ongoing Communication
with Various Outside Agencies Regarding Terrorism

FIGURE 10  Frequency of information exchange regarding terrorism between transit agencies
and various outside agencies.
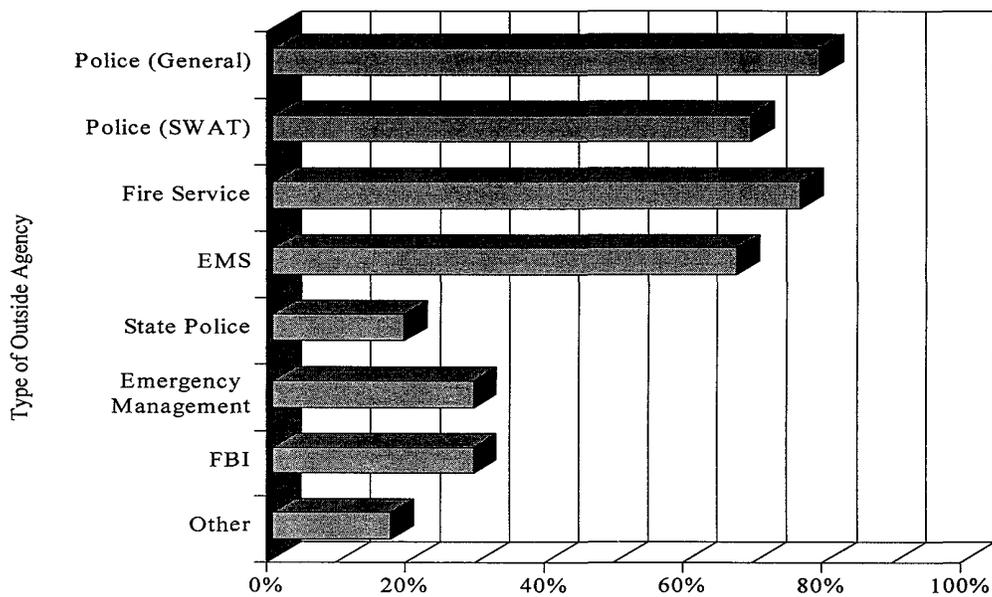


Percent of Transit Agencies Providing Familiarization
Training to Outside Agencies

FIGURE 11  Percentage of participating agencies providing transit familiarization training to various
outside agencies.

Has your agency conducted a terrorism response drill?
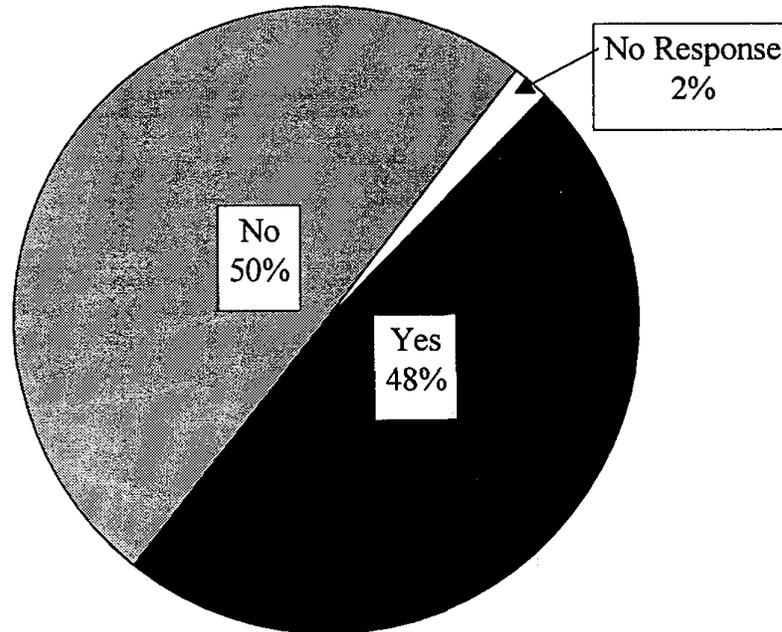


FIGURE 12  Percentage of participating agencies that have conducted a
terrorism response drill.

training programs developed by the FBI to improve terrorism preparedness, while 43 percent participate in similar programs developed by local and state law enforcement.

As shown in Figure 12, almost half of survey respondents have conducted a terrorism response drill. Further, survey responses indicate that nearly a quarter of the agencies have conducted a tabletop training session on terrorism. Eighty-eight percent of survey respondents are interested in attending a national or regional workshop on transportation terrorism prevention and response.

CHAPTER THREE

# RECENT INCIDENTS AND EMERGING THREATS

Terrorism is becoming increasingly lethal, as a wide variety of groups seeking to influence political and social discourse continue to embrace violence. No longer limited to nationalists and state-sponsored groups receiving support from states such as Iran, Iraq, Libya, North Korea, and Syria, terrorists now include a wide range of groups and movements with religious, ethnic, right-wing, and issue-specific agendas. In the United States, the emergence of both domestic terrorist groups and loose networks of émigrés receiving support and direction from hostile foreign powers (such as the group responsible for the World Trade Center bombing) means that, for the first time in recent years, highly motivated and capable extremists committed to terrorism exist within U.S. borders.

Research conducted for this synthesis indicates that evolving groups such as gangs, cartels, triads, and other "networked" organizations may present the greatest future threat for violence. Despite the lack of a unitary leader, these groups nevertheless share a common goal or anti-social philosophy and use violence to further their aims. Such a framework, perhaps best exemplified by the "leaderless resistance" espoused in speeches by Aryan Nation's leader, Louis Beam, promises to challenge law enforcement investigative skills into the next century. New communications media such as the Internet, e-mail, and the widespread accessibility of fax machines, allow these groups--regardless of location or nation--to seek out, influence, and stimulate like-minded activists or anarchists.

As a result of these activities, terrorism in the United States is evolving; individual incidents are increasingly yielding greater injury and death and new targets are vulnerable. These new targets include key infrastructure such as transit systems, power lines, pipelines, the information infrastructure, and communication nodes.

Transportation terrorism is not new. Airliners and airline ticket offices have long been a primary target of terrorist activity. Yet, as aviation targets become more difficult to exploit, mass transit targets--buses and trains--become a more attractive venue for terrorist activity.

Transit systems offer potential terrorists, particularly those willing to embrace high-order violence, with an easy-to-exploit target signature. Transit systems are highly visible and represent government authority. They carry large numbers of people in concentrated spaces along predictable routes that are susceptible to disruption because of their systemic nature. Most importantly, transit systems, as a result of their passenger volume and focus on public convenience, are virtually impossible to secure.

As terrorist organizations continue to evolve, easy access to transportation targets and the materials required to assemble and deploy explosive devices raises the potential for incidents of catastrophic impact. Consequently, terrorists may develop more complex and violent strategies for terror. A group seeking to adopt mass violence can employ weapons of mass destruction, such as chemical or biological agents, or high-order explosives, if it seeks mass casualties; or it can opt for the "soft-kill" achieving disruption and fear through threats or symbolic attacks. Further, a terrorist group can mix its tactics for optimal terror. All of these courses of terror are facilitated by the unique vulnerability of the transit infrastructure. For example, the April 1997 Irish Republican Army (IRA) campaigns which mixed threats and actual bombings to maximize disruption, successfully shut down three airports and several train stations throughout Great Britain.

## TRANSIT TERRORISM: THE LAST TWO DECADES

While the threat against transit targets is only now gaining broad recognition, transit systems and railways have long been considered viable targets by terrorists. *Policing Transportation Facilities (3),* chronicles terrorist acts committed against public transportation systems since the early 1980s. Among the groups identified as practitioners of transit terrorism are Islamic extremists; Armenian nationalists; the Provisional IRA; Basque, Sikh, and Tamil separatists; Peru's "Sendero Luminoso;" and Japan's "Chukaku-Hu." Nations that experienced transit terrorism during the 1980s include Japan, France, Spain, Switzerland, Israel, South Africa, the Netherlands, the United Kingdom, India, Sri Lanka, Chile, Italy, Iran, Burma, and Canada *(3)*.

Throughout the 1980s, terrorists targeting public transportation systems used both conventional weapons to inflict heavy casualties and more subtle tactics aimed solely at disrupting transit service. For example, the 1980 Bologna train station bombing demonstrates casualty generation potential (40 persons were killed, 291 injured), while the 1985-1986 assaults on the Tokyo subway by Chukaku-Hu demonstrate the disruptive option. In one notable 1984 attack, Chukaku-Hu opted for the "soft-kill" attacking 34 nodes of the Japanese National Railway, stranding 18 million commuters after destroying electronic signals.

However, while terrorism experts predicted escalations in attacks against public transportation systems, few were prepared for the events which have occurred in this decade. Ongoing bombing campaigns in France, conducted by Islamist militants and directed at the Paris Metro, have targeted trains, passenger terminals, and other rail facilities. Collectively, these attacks have not only caused hundreds of casualties but, for the first time in the agency's history, long-term declines in ridership have been attributed to concerns over terrorism. Additionally, the transit agency faces numerous challenges as

it tries to implement security measures to identify and prevent future attacks while, at the same time, protecting the civil rights of more than three million Arabs living in France.

Both Israel and England have experienced target shifts with terrorist groups now bombing buses. Israel, in particular, has been heavily hit. In August 1995, a bus bombing during the Tel Aviv rush hour killed five and injured 70; and a July 1995 bus bombing killed six and injured 31. *Hamas* is believed to have carried out these assaults. Similar bombs have also been discovered on school buses. In addition, terrorists are increasingly exploiting the technique of "setting off" secondary explosions after the initial blast in order to kill and injure first responders. The presence of these devices has led to significant changes in the operating procedures used by Israeli police to respond to bombing incidents.

Recent events indicating that the threat of transit terrorism is present in the United States include the October 1995 derailment of Amtrak's *Sunset Limited* by unknown saboteur(s) 27 miles east of Hyder, Arizona. One person was killed and more than 100 injured in this incident where a manifesto by an unknown "Sons of Gestapo" was left at the scene. Other indirect threats have also surfaced against U.S. agencies. Quasi-terrorist acts, such as bomb threats received by transit agencies throughout the country, the firebombing at the Fulton Street station on the New York City subway, and the Long Island Rail Road shooting reinforce the vulnerability of U.S. systems.

The Long Island Rail Road shooting demonstrates the impact of a quasi-terrorist incident on a transit agency. On December 7, 1993, Colin Ferguson, a lone gunman, boarded the 5:33 p.m. train from New York City's Penn Station bound for Hempstead, Long Island. When the train approached the Merillon Avenue Station in Garden City, he systematically opened fire on the passengers of the train's third car with a 9-mm semi-automatic handgun. In the resulting carnage, six people were killed and 20 were wounded.

The secondary impact of off-system incidents like the World Trade Center bombing, which affected passengers and transit operations on the New York City subway and the

Port Authority Trans-Hudson commuter line, are also of concern to transit agencies. In the February 26, 1993 bombing of New York's World Trade Center, a rental van containing 1,200 pounds of ammonium nitrate explosives was detonated in the garage of the complex's Tower One. Six people were killed, and more than 1,000 were injured. The majority of injuries resulted from smoke inhalation. Most of the evacuation during this incident was unassisted. Because of confusion at the scene, many of the injured sought medical aid in New Jersey and as far away as upstate New York.

It also appears that the World Trade Center bombing was an attempted chemical warfare incident. According to the statement by the sentencing judge, this bombing case involved the attempted dispersal of sodium cyanide by the terrorists. Fortunately, the sodium cyanide burned in the explosion rather than vaporizing. If the sodium cyanide had vaporized, it would have released a cloud of cyanide gas, placing the occupants of the North Tower in even greater jeopardy.

Perhaps the most devastating transit terrorist incident over the past two decades was the March 1995 release of sarin gas on the Tokyo subway at the height of the morning rush hour. Three rail lines were involved and five railcars directly affected. Victims were found at 15 subway stations. Between 5,000 and 6,000 people were exposed and 12 died (nine at the scene, three at the hospital).

As alarming as the Tokyo sarin disaster was, an attempt was made to follow it up with a potentially more lethal event. This failed attack occurred on May 5, 1995. This time a new agent was involved--hydrogen cyanide, also known as the Nazi death gas, Zyklon B. Fortunately, the attack was thwarted. Two burning packages were discovered by transit employees in a restroom that vented onto a passenger platform. Each package contained separate precursors to hydrogen cyanide; fortunately, these packages were located and removed before the gases could mix. Had this simple improvised binary device been successful, as many as 20,000 to 25,000 deaths could have resulted. That particular restroom was selected because it was the only one that vented onto the platform; all others vented onto the street.
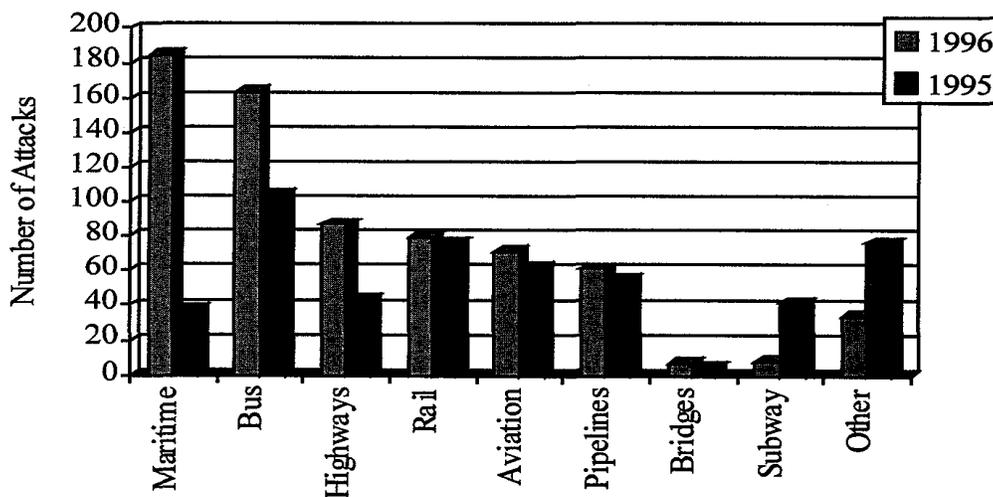


FIGURE 13  Worldwide violent attacks against transportation targets in 1995 and 1996.

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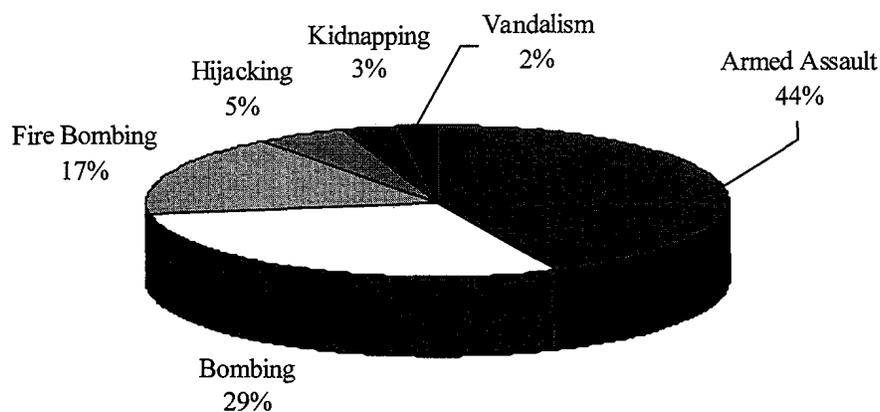


FIGURE 14  Types of attacks against transportation targets in 1996.

Terrorist assaults targeting transit infrastructure signal a new threat in the terrorist arena: the use of weapons of mass destruction, such as chemical or biological agents, by nonstate actors against the civilian populace. Transit systems continue to be the target of opportunity for terrorists because of their accessibility and vulnerability. Figure 13 depicts worldwide violent acts against transportation by mode for 1995 and 1996, as reported by OIS. Figure 14 presents OIS data for types of attacks on transportation systems.

## TRENDS IN TACTICS

The nature of terrorism has changed over the years. New actors are using increasingly more lethal weapons in their effort to influence political discourse in the United States and around the world. This marks a dramatic change in required levels of preparedness.

Transit terrorism in the 1980s focused on the detonation of traditional explosive devices and the use of tactics to disrupt

transit service. As the 1990s mature, the trend is for terrorists to expand their repertoire to achieve mass casualties and major disruptions of service. In addition to earlier tactics, terrorists now use extended bombing campaigns targeting both rail and bus service. The potential use of weapons of mass destruction is an extreme manifestation of this trend.

## TRENDS IN TARGETS

Along with a preference toward the generation of large-scale, high-visibility, high-casualty assaults, terrorists can be expected to embrace a wide range of technologies to carry out their assaults. The trend in terrorist targeting is anticipated to include government buildings and transport/transit facilities. Potential future targets also include museums, theme parks, energy facilities, and key infrastructure. Attacks on sites that afford terrorists maximum publicity, ensured through casualty generation to stimulate fear, may be prime targets for terrorist attention at this time and into the foreseeable future.

CHAPTER FOUR

# PLANNING AND PREPAREDNESS FOR TRANSIT TERRORISM

Managing response to a major transit terrorist incident, particularly one causing significant casualties, damage, and disruption, is a major organizational effort. The Federal Emergency Management Agency (FEMA) incorporates four generally recognized phases of emergency management into the Intergrated Emergency Management System (IEMS). IEMS uses an "all-hazards" approach and an integrated operations plan to ensure coordination and cooperation among different agencies and jurisdictions involving all levels of government, volunteer organizations, and the private sector. This chapter presents activities performed in the transit environment to address the first two generally recognized emergency management phases: mitigation and preparation. Results from site visits with five transit agencies and the synthesis survey are summarized in this chapter to address key terrorism preparedness issues, including risk assessment, threat identification and resolution, emergency action planning, and emergency response training.

## PLANNING FOR TRANSIT TERRORISM: AN OVERVIEW

Results from the synthesis survey indicate that transit agencies, transit police, and local law enforcement agencies in the United States may indeed find themselves coping with the consequences of a terrorist incident. Dispelling the commonly held perception that terrorism is a remote possibility, 29 percent of the survey respondents report participating in a terrorist related investigation within the past 5 years. Eighty-eight percent of respondents have experienced bomb threats, and 26 percent have experienced a hostage/barricade situation. In addition, 71 percent of respondents provide service in states with at least one identified terrorist group, and 33 percent of agencies have identified one or more terrorist groups operating in their service area. These results emphasize the need for improved planning capabilities to combat terrorism in the transit environment.

Planning to deal with transit terrorism involves the identification of resources and methods required to reduce its impact. This process includes assessing actual capabilities and then, through coordinated planning, determining the best strategic application of these resources and methods to the problem. This planning has two goals:

- Terrorism mitigation--Includes system design and physical security measures to enhance observation and deter criminal activity; police patrol and surveillance; coordination with operations and maintenance personnel to identify and resolve security threats; and communication and coordination with local, state, and federal law enforcement agencies to obtain terrorism intelligence, training, and technical support.
- Terrorism Response--Includes developing plans and procedures to minimize the potential danger to passengers and

emergency responders during incidents, and maximize the effectiveness of the transit system and other agency personnel while managing the critical incident.

## Key Planning Prerequisites

Transit police officials participating in this synthesis identified three key planning prerequisites:

- Obtaining executive and management support
- Developing a System Security Program Plan (SSPP)
- Designating a terrorism preparedness planning group.

*Obtaining Executive and Management Support*

Before initiating significant efforts to enhance the transit agency's capabilities in mitigating and responding to acts of terrorism and extreme violence, those transit police departments participating in site visits sought active support from top management. This support was deemed essential.

According to participating agencies, a clear and widely distributed Terrorism Policy Statement from the General Manager or Executive Director can provide the necessary support to develop enhanced terrorism prevention and response programs by

- Emphasizing the importance of addressing the threat of terrorism/extreme violence,
- Designating authority for the police/security department or some other operational unit to develop and implement necessary plans and procedures and to purchase technology, and
- Demonstrating management commitment of resources and personnel.

Some of the agencies participating in site visits had experienced acts of terrorism or extreme violence and, therefore, transit management had requested or even initiated these programs. At other transit police departments, the following issues were addressed in presentations to obtain the endorsement of top management for these programs:

- Information, including assessments from the FBI and other intelligence organizations, detailing the extent of the threat to mass transit,
- Reports from other transit agencies detailing their anti- and counterterrorism initiatives,
- Media reports concerning acts of terrorism/extreme violence at home and abroad,

- Liability and legal issues confronted by an agency with no terrorism response program,
- Short-term and long-term loss of ridership resulting from an incident of terrorism or extreme violence, and
- Documentation of employee and citizen concerns over terrorism at the transit agency.

### Developing a System Security Program Plan (SSPP)

A recent FTA Rule for State Safety and Security Oversight (codified at 49 CFR Part 659) requires all rail transit systems to prepare and implement an SSPP by January 1, 1998. The SSPP must be based on planning guidelines contained in the FTA publications, *Transit System Security Program Planning Guide, Transit Security Procedures Guide,* and on the security planning requirements developed by the rail transit agency's State Safety Oversight Agency *(12).* The SSPP, which focuses primarily on activities performed agencywide to provide a secure environment for transit customers and employees, should also document counterterrorism programs and initiatives.

Most rail transit officials interviewed for this synthesis are in the process of preparing an SSPP for their agency. The SSPP provides several important benefits, such as

- The clear identification of all agency responsibilities for security and the education of all employees concerning those responsibilities,
- The opportunity to examine and strengthen key interfaces between the transit police/security department and the transit agency's operating and maintenance departments, and
- The opportunity to strengthen coordination and cooperation with local, state, and federal law enforcement and emergency services organizations.

The SSPP provides an opportunity to focus more attention on transit security within the transit agency. Preparing this plan also encourages adopting a systems approach to reducing the occurrences of criminal incidents, in the same manner in which this approach is currently applied to the transit safety and architectural/engineering fields. Including terrorism preparedness programs in the SSPP may increase both employee and management awareness.

### Designating a Terrorism Preparedness Planning Group

To develop the necessary plans and procedures, and to investigate the benefits of additional technology, some site visit participants and many survey respondents have designated planning groups within their police/security departments or transit agency to address terrorism. Planning groups may be pre-existing as part of corporate security structures or internal planning organizations designed to address ongoing security issues, or they may be created specifically to address terrorism. In some cases, interorganizational committees have been

used to take advantage of personnel expertise from throughout the transit agency.

Survey results and site visits indicate that the single most important determinant in the level of terrorism planning and prevention programs is the transit agency's assessment of its roles and responsibilities for terrorism prevention and response. Transit agencies with explicitly defined responsibilities and a precise understanding of their role during such an event are far more likely to have developed plans and invested in interagency coordination and training than those systems without such an understanding. A planning group can facilitate the definition of these roles and responsibilities.

## BEGINNING THE PLANNING PROCESS

To initiate the planning process, transit agency personnel participating in this synthesis performed four activities:

- Intragency coordination,
- Coordination with local, state, and federal agencies,
- Risk assessment, and
- Threat identification.

### Intragency Coordination

For many of the transit agencies participating in this synthesis, the first activity of the Terrorism Preparedness Planning Group is to develop policies to improve internal coordination regarding the *mitigation* of terrorist incidents, and to provide the necessary organizational interfaces for improving *response* to such an incident.

The internal organizational structure of a transit agency is generally defined in its organizational charts, rule books, Standard Operating Procedures (SOPs), training programs, and system plans for emergencies and other incidents. Participating agencies stressed the following two objectives when reviewing and strengthening policies and procedures for internal coordination:

- Appropriate internal coordination allows for clear communication pathways that help to ensure the free flow of information among departments and within departments to those with responsibility for notification and response.
- Internal coordination provides for definitive understanding of roles and responsibilities for mitigation of and response to terrorist incidents.

### Coordination with Local, State, and Federal Agencies

A key element in any terrorism planning program is the access to intelligence on potential terrorist threats and activities. In the event of an actual incident, effective multi-agency coordination is essential. To meet these requirements, transit police departments and transit agencies have developed and are

enhancing programs to maximize communication and coordination with local, state, and federal agencies.

Many transit agencies are actively involved with state and city emergency organizations, and participate in meetings, committees, councils, and planning groups. In addition, local and transit police officials interviewed stressed that they maintain contact with other municipal and federal law enforcement agencies in the course of regular crime prevention activities. Additional interaction occurs through joint investigations and joint planning efforts for special events, and through interagency groups, such as professional law enforcement associations that meet to discuss crime related issues.

Currently, all agencies participating in site visits are working with local law enforcement to improve crime reporting systems to ensure transit agency access to relevant crime data from transit facilities and areas located near the agency. Transit officials generally agreed that if an actual threat were identified by another local law enforcement agency, the intelligence information would be shared with them in a timely manner.

According to participating police officials, understanding jurisdictional relationships is a key component of effective coordination. Response to a terrorist incident is likely to be emotionally charged. Control over the scene should not be determined under these circumstances. Police officials interviewed stressed the importance of clarifying jurisdictional authorities and responsibilities well in advance of response to an actual terrorist incident.

When jurisdictional roles have been resolved, in a memorandum of understanding or similar document, individual agency responsibilities will be easier to identify. To test the integrity of jurisdictional agreements, interviewed officials reviewed a variety of scenarios involving explosions, gas and chemical releases, and hostage situations to ensure that all local responders recognized their respective roles and responsibilities. Such an understanding supports the capabilities of both the transit agency and its local response organizations to provide advance information on possible terrorist activity, as well as cross-training and joint-preparation programs and operations.

To encourage the exchange of information with federal organizations, police chiefs at several participating agencies have obtained security clearances at the "secret" level. This allows them to obtain analyses from the intelligence community and to participate in meetings and joint programs with federal agencies, such as the FBI and the USDOT OIS. Appendixes C and D contain practices and checklists used by participating agencies to guide interface with local, state, and federal law enforcement and emergency responders.

## Risk Assessment

A risk assessment is a comprehensive study of a transit agency to identify components most vulnerable to criminal activity, including acts of terrorism and quasi-terrorism, and to assess the impact of such activity on passengers, employees, and the agency. The results of a risk assessment assist transit

officials in making critical decisions concerning the allocation of available resources, such as where to harden targets, change procedures, and detail officers. All transit agencies participating in site visits recognized the value of conducting risk assessments. Some of the methods used include

- Risk assessments specific to terrorism and quasiterrorism,
- Risk assessments performed as a part of the overall system design process, and
- Security inspections, performed in the normal course of police or private security operations.

Table 1 presents a risk assessment performed by the General Accounting Office (GAO) for the rail transit environment *(13)*. Rail transit components are identified and listed in the table. Assessments of risk factors were based on the impact of component disruption on people (either the public or employees) and on the transit system itself. This assessment illustrates the vulnerability of key components of one mode (rail transit). Similar assessments can be valuable for other modes to identify critical operating components.

## Threat Identification

Once a risk assessment has been completed, interviewed officials recommended documenting potential terrorist threats to the high-risk areas of the system. This documentation enables system vulnerabilities to be clearly identified and prioritized. Several methods may be used to identify these threats, including

- Analysis of historical data and application of this information to the development of different attack scenarios against the system,
- Review of threat checklists developed by the agency or obtained through other sources such as consultants,
- Judgment of transit agency senior personnel (based on experience and knowledge of system vulnerabilities), and
- Use of formal analyses, including Preliminary Threat Analysis and Fault Tree Analysis.

Participating agencies also identified terrorist profiles as a valuable tool in designing deterrence programs. For example, knowledge of the habits, capabilities, and target selection process of terrorists targeting city officials using mail bombs enabled one agency to develop an effective procedure for receiving and screening mail and packages. Transit security information circulars from the USDOT OIS (distributed by FTA) and local law enforcement agencies also provided vital information to assist transit agencies with identifying chronic vulnerabilities.

Additional considerations for identifying an agency's vulnerability to terrorism include

- Terrorist acts, taking place elsewhere, but committed by a group active or operating in the agency's area,

TABLE 1
ASSESSMENT OF RISK AND VULNERABILITY

| Transit Components | Criticality (Level of Impact) | | Vulnerability |
| --- | --- | --- | --- |
| | People | Agency | |
| Stations | High[a] | High[b] | High |
| Rail | | | |
|   Track | Low | High[b] | High |
|   Cars | High[b] | Low | High |
|   Maintenance yards | Low | Medium | Medium |
|   Switching stations | Low | Medium | Medium |
| Electric power | | | |
|   Source for Agency | Medium | High | Medium |
|   Substations (TPSS) | Low | Medium | Medium |
| Command Control Center | Low[c] | High | Medium |
| Revenue Collection Facilities | Low | Medium | Low |
| Bridges, aerial and tunnel structures | Medium | Medium[b] | Medium |
| Fans,vents, and emergency hatches | Low | Medium | Medium |

(a)   Depends on what time of day incident occurs: greater impact would be experienced during rush hours than off-peak service.
(b)   Depends on the location in the agency where an incident occurs: an incident at a cross over or main junction would have greater impact than one at an outlying station or track segment.
(c)   Affects employees only.
Source: Adapted from Domestic Antiterrorism Efforts at Selected Sites, GAO/PEMD-88-22 *(13).*

- Pre-incident indicators (e.g., group propaganda statements, direct threats, and recent thefts of uniforms, keys, vehicles),
- Identified surveillance attempts, and
- Information from employees or others affiliated with the transit agency.

Threat identification efforts at agencies participating in site visits generally involved an approach to terrorism prevention that focused on identifying possible terrorist weapons that could be used in the transit environment and particular methods for introducing them into the agency. Commonly identified threats include the following:

- Explosives (pipe bomb, crude high-yield explosives, or sophisticated devices) placed in
  -Cars left in parking lots or rammed into parking garages, transit stations, or other facilities,
  -Walls, trash receptacles, ducting, or other hard-to-detect locations in passenger terminals, and
  -Suitcases, bags, or other packaging and abandoned in passenger terminals or on transit vehicles.
- Explosives (small, lower-yield devices) placed in mail packages or envelopes.
- Release of chemical or biological contaminants (ricin, sarin, sodium cyanide, mustard gas, highly infectious viruses) into passenger terminals, air ventilation systems, or transit vehicles.
- Release of radioactive contaminants in passenger terminals or transit vehicles.

Site visit participants indicated that the security of transportation facilities, customers, and employees is enhanced by the capacity to systematically address a potentially large volume of threats through the application of analytical techniques that distinguish between threats that pose serious risks of violence and those that do not.

## RESOLVING IDENTIFIED RISKS AND THREATS

Experts in terrorist tactics frequently describe the importance of the target selection process and the ways in which terrorists identify "hard" versus "soft" targets. While there are no guarantees, sophisticated security countermeasures which "harden" transit facilities, can limit potential target attractiveness.

Limited resources force transit police and security personnel to make choices concerning the use of security measures--which assets to protect and which to leave unprotected. To assist in making these decisions, a resolution process for identified risks and threats has been implemented at many of the transit agencies participating in site visits. This process requires the following activities:

- Assessing agency resources available to support anti-and counterterrorism programs,
- Assessing outside resources available at the local, state, and federal level to support anti- and counterterrorism programs,
- Determining specific activities to be performed by the transit agency to deter acts of terrorism and extreme violence,
- Determining specific activities to be performed by the transit agency to manage a terrorist incident and to coordinate response with appropriate local, state, and federal agencies, and
- Allocating agency and outside resources to support identified activities for terrorism prevention and response.

## COUNTERMEASURES

Typical countermeasures for terrorism include law enforcement presence, physical security measures, improved response capabilities, warning or detection technologies, and response and emergency management training. To determine which of these countermeasures will best resolve identified

risks and threats, transit police, operations, and engineering personnel at agencies participating in site visits evaluated the following issues:

- Physical areas in high-risk facilities that are susceptible to terrorist activity,
- Agency policies in high-risk facilities that may encourage terrorist activities,
- Steps that may be taken to improve system design in high-risk facilities, and
- Steps that may be taken to improve agency management in high-risk facilities.

To take maximum advantage of existing resources, participating police departments integrated terrorism planning initiatives into existing programs. Survey responses indicated a similar tendency to use traditional crime prevention technology and deployment to deter acts of terrorism, and to incorporate terrorism response into general agency emergency plans. Risk can be reduced by a policy as simple as removing all trash receptacles from rail transit stations, or as complex as designing and installing an advanced intrusion detection system. Table 2 presents steps taken by participating agencies to reduce system vulnerability to acts of terrorism and extreme violence using law enforcement and physical security equipment. Appendix E describes technology initiatives taken by the National Institute of Justice to apply new and developing technologies to law enforcement counterterrorism efforts.

Terrorism avoidance is also incorporated into Crime Prevention Through Environmental Design (CPTED) programs at participating agencies. Crime prevention and control, especially in the transit environment, begins with facility and vehicle design-- creating and maintaining an environment that is not conducive to criminal activity. All of the transit agencies participating in site visits used CPTED to reduce the number of criminal incidents occurring on the system. Common CPTED considerations include the following:

- Movement control (analyses of how criminals and potential offenders may move through the system, including access control measures and "defensible space" design).
- Surveillance control (or technologies and designs that subject potential criminals to detection),
- Space utilization (the creation of mixed-space facilities that enhance the possibility of observation and enhance connections between vendors, customers, and employees), and
- Management activity (the use of designs and technologies that improve the lines of communication of agency employees to management and police support).

The following CPTED strategies were used by transit agencies participating in this synthesis:

- Designs, hardware, and signage to control access, movement, and crowd flow through entrances, escalators, and exits,
- Improved lighting,
- Removal of niches and comers, and the covering of elevator shafts, piping, vents and ducts, and power lines,
- Narrowing or connecting columns to improve visibility (in older facilities),

TABLE 2
SECURITY MEASURES USED TO DETER TERRORISM

| General Category | Type of Measure | Particular Measure |
|---|---|---|
| Law Enforcement Activities | Police Patrols (Routine and Special) | Uniformed (bicycles, carts, and motorcycles) |
| | Random and Scheduled Facility Inspections | Plainclothes |
| | | Canine |
| | Recommended at design stages of construction or reconstruction of security enhancements. | Officers trained in CPTED |
| Physical Security Equipment | Closed Circuit Television (CCTV) | Constant monitoring; video recording; alarm-activated recording; monitored safety zones |
| | Intrusion-Detection Alarms | Electro-mechanical; microwave; ultrasonic |
| | Access Control | Electronic access control systems; biometrics; employee badges; magnetic-card keys; employee sign-in procedures; work order procedures; fences and gates; locks; vaults |
| | Communications | Radios; public address systems; emergency station and rail car phones; train annunciator systems; silent alarms |
| | X-ray Equipment | Portable explosive detection equipment |
| | Blast Resistant Containers | Specialized materials for trash can construction |
| | Vehicle Barriers | Concrete barriers strategically placed to protect agency and access facilities |
| | Under Vehicle Surveillance | A fixed device that scans the underside of vehicles and can be used to check for bombs |
| | Gas-Detection Devices | Portable devices and agencywide installation |
| | Lighting | Halogen, fluorescent, infrared, and spotlights; Lighting redundancy |

Source: Adapted from Domestic Antiterrorism Efforts at Selected Sites, GAO/PEMD-88-22 *(13)*.

- Improving visibility and operation of bus gates,
- Improving restrooms (graffiti-resistant materials, ventilation, bright lighting, automatic controls on faucets and toilets, attendants) or removing them,
- Advertising and controlling fire doors and emergency staircases (signage, alarms, and access),
- Providing seating that does not encourage loitering,
- Implementing "good housekeeping" procedures (clean floors, walls, and elevators), and
- Providing information kiosks and public announcements to reduce transit customer confusion (particularly important for large facilities).

While these strategies were designed primarily to address traditional security concerns, they also improve terrorism mitigation and response capabilities. For example, elimination of niches and comers removes potential hiding places for bombs or other devices. "Good housekeeping" makes it easier to identify packages and objects that do not belong. Appropriate signage ensures that passengers move through the facility, even during evacuation conditions.

Participating agencies also supported CPTED designs with situational crime prevention techniques and Random Anti-Terrorist Measures. These deployment techniques enhance the visibility and impact of uniformed and plainclothes patrols by

- Routine checks of unattended vehicles,
- Scrutiny of packages and vehicles, and
- Monitoring critical facilities and key infrastructure (e.g., directed patrol checks of hatches, traction power substations, signal equipment, tracks, switches, yards and shops).

Randomness is ensured by rotating the areas and measures subjected to enhanced scrutiny on a daily or shift-by-shift basis.

## INTEGRATING TERRORISM RESPONSE INTO EMERGENCY PLANNING AND PREPAREDNESS

Effective emergency management requires sound decision making in a chaotic and emotionally charged environment. Management of this caliber can only be achieved through dedicated emergency planning and training. This is particularly true for response to acts of terrorism and extreme violence.

A transit agency's emergency preparedness for terrorism directly influences the magnitude of danger in an emergency situation. Terrorism emergency preparedness is strengthened in the transit environment by the following methods:

- Developing an Emergency Action Plan,
- Integrating emergency policies and procedures into existing operating and emergency response procedures,
- Identifying and training with emergency equipment,
- Designing emergency features in system and vehicle design,
- Training agency employees and emergency response organizations, and

- Providing advance information to emergency response organizations on transit components.

Survey results indicate that most transit agencies have some degree of emergency planning capabilities. Almost all responding agencies have developed Emergency Action Plans to direct response to any incident threatening life safety within the transit system, including accidents, natural disasters, and hazardous materials spills. A smaller number of agencies have supplemented general Emergency Action Plans with specific Terrorist Incident Response Plans. These plans address contingencies arising specifically from large-scale mass violence, including the need for enhanced notification, if possible, and coordination with federal, state, and local law enforcement and emergency management agencies.

The purpose of an emergency action plan, also referred to as a general emergency plan, is to establish procedures to be implemented by the transit agency and other responding agencies when a life-threatening situation occurs at or near the system. In the transit environment, the goals of such a plan are to:

- Facilitate the flow of information within and between all levels of the transit agency, and
- Facilitate interaction and coordination among all responding agencies.

In general, emergency action plans used in the transit environment provide guidance for

- Reporting the incident,
- Evaluating the incident,
- Using the Incident Command System (ICS),
- Notifying emergency response personnel/agencies,
- Dispatching emergency response personnel and equipment to the incident site,
- Protecting personnel and equipment at the incident site,
- Evacuating passengers and nonessential personnel,
- Providing incident briefings and situation updates,
- Providing medical treatment and transportation to medical facilities,
- Managing the emergency,
- Restoring the system and agency to normal, and
- Incident debriefings and after-action reports.

### Emergency Planning and the ICS

Emergency action plans developed at transit agencies participating in site visits for this project were heavily influenced by the Incident Command System, developed initially by fire departments in the early 1970s to manage response to large-scale events. ICS (discussed in greater detail in chapter 5) provides the required flexibility to rapidly establish and activate an organizational structure around emergency requirements. Using designated functional sections, the transit agency has the flexibility to develop the form of the responding organization to match required tasks and the ability to staff only those functional sections that are necessary to resolve the

incident. This structure also enables the transit response organization to maintain an effective span-of-control.

Perhaps the most important feature of ICS is its ability to be integrated into the command structure of local police and fire departments. In the event of an actual terrorist incident at a transit system, either local police or fire services ultimately assume the duties of the incident commander, or join in a "unified command." However, transit police and operations personnel would still play a vital role during emergency response. By using ICS, transit police and operations remain "plugged in" to the command structure, ready to assist and supply information and resources to the effort.

## The Importance of Emergency Procedures for Terrorism

Participating transit agencies indicated, however, that while ICS offers many benefits during response to an emergency situation, it provides only a management structure. Emergency procedures (usually developed jointly by operations and transit police) to guide activities during response to an act of terrorism or extreme violence are considered essential. These procedures include specific actions to be administered by train and bus operators, dispatchers, maintenance personnel, track/signal/engineering personnel, media staff, police and security officers, and safety personnel. Emergency procedures may address any of the following issues:

- How to report an act of terrorism or extreme violence,
- How to determine and evaluate the facts of the incident at the scene,
- How to verify incident notification,
- How to protect the scene of the incident,
- How to properly ventilate the scene,
- How to restrict trains from the scene,
- How to remove and restore third-rail power, and
- How to assist in rescue and evacuation operations.

Transit agencies participating in site visits recommend that these procedures be readily available, preferably in checklist format, and that training and drilling be provided to reinforce them.

## Terrorism Contingency Plans

Site visit participants also recommend that detailed contingency plans be developed to ensure smooth operations during critical situations produced by terrorism and acts of extreme violence. It is recommended that these plans, similar to those developed for fires or hazardous materials spills, should be multilevel, deriving input from all levels of government that will be called into action. Participants also recommend that these plans be as close to day-to-day operations as possible with frequent review, testing through drills, and updating as necessary. Finally, participating agencies emphasize the importance of maintaining the clarity of functional and organizational roles and of open communications and ongoing consultation among all

personnel. Contingency plans may detail transit agency responsibilities for the following activities performed during response to an act of terrorism or extreme violence:

- Provisions for intelligence gathering and evaluation, including assessment of the type of incident (explosive with possible secondary devices, chemical, biological, or nuclear),
- Emergency field operations guidelines, including procedures for evacuation and the use of emergency equipment and communications,
- A fixed yet flexible ICS structure,
- Designation of specialized tasks and personnel, including protocols for development (memoranda of understanding and SOPs),
- Rules governing the conduct of responding personnel,
- Rules on weapons use, selection, and deployment,
- Guidelines for negotiations,
- Provisions for the establishment of inner and outer perimeters and operational zones or sectors, including the maintenance of perimeter integrity, for both conventional incidents and those involving CBN contaminants,
- Provisions for the establishment of scene support activities (e.g., a media post, triage center, and informational center for responders),
- Provisions for post-incident debriefing, critique, and if necessary, Critical Incident Stress Debriefing (CISD) and counseling, and
- Provisions for implementation.

## Incorporating Terrorism Response into Emergency Training

Transit personnel who respond to emergency situations, including terrorism and acts of extreme violence, are the most vital element of a transit agency's emergency response capability. Proper training of these and other emergency response personnel is essential. Training at many transit agencies, including those participating in site visits, is based on the emergency action plan and emergency procedures. To guide training efforts, transit police and other participating personnel have developed training plans. These plans define the training and information requirements for employees, contractors, visitors, managers, and others with an identified emergency response role.

At participating agencies, general information conveyed during emergency training includes the following:

- Overall scene management,
- Equipment available during an emergency,
- Job descriptions (individual duties and task specifications),
- Specific job training for emergency situations (the operation of emergency equipment, specific responsibilities assumed in emergency situations, etc.),
- Emergency coordination protocols (notification, ICS, authority at the emergency scene),
- Emergency response skills and techniques (specific skills and techniques used in an emergency situation),

- Incident awareness training (recognizing that a terrorist event has occurred and required actions), and
- First-responder training (first aid, rescue, situation assessment, and immediate response activities).

In addition, special issues relating to terrorism must also be addressed in general emergency training. Special issues include: detection of suspicious items, proper use of emergency equipment (e.g., personal protective equipment, including appropriate clothing, self-contained breathing apparatus for CBN threats), crime scene investigation, and bomb threat management. Training on these issues may involve

- Orientation and education sessions--Regularly scheduled discussion sessions to provide information and answer questions.
- Tabletop exercises--Members of the emergency management group meet in a conference room setting to discuss responsibilities and reactions to emergency scenarios. This is a cost-effective and efficient way to identify areas of overlap and confusion before conducting more demanding training activities.

- Functional drills--Testing specific functions such as emergency notifications, warning and communications procedures, and equipment. Personnel assist so problem areas can be identified and corrective action taken.
- Full-scale exercises--A real-life emergency situation is simulated as closely as possible. This exercise involves transit emergency response personnel, employees, management, and community response organizations.

According to interviewed police personnel, multidisciplinary training must become the norm. In addition to traditional emergency responders, it is essential to integrate all transit disciplines as well as a variety of nontraditional responders: contractors, iron-workers, operating engineers, and technical specialists. In all cases, responder safety must be a paramount priority.

Training and exercises must build response and investigative skills. Their goal is integrating transit personnel, firefighters, police, and other counterdisaster personnel into a cohesive response system. Training should reinforce a command, control, and intelligence architecture that sustains crisis decision making and field management efforts.

CHAPTER FIVE

## RESPONDING TO TRANSIT TERRORISM

Information presented in this chapter describes activities performed during the third generally recognized phase of emergency management: Response. The resolution of complex emergencies resulting from acts of transit terrorism and extreme violence is a pivotal function shared by the transit agency and the law enforcement and emergency services communities. This chapter presents organizational structures, tactics, and programs used to manage response for acts of transit terrorism. It identifies the tools available to support transit police and security and operations personnel in managing full-scale response to such an incident, including the ICS, the Incident Action Plan (IAP), command posts (CPs), emergency operations centers (EOCs), and media management techniques.

## TRANSIT TERRORISM: THE CHALLENGE OF RESPONSE

Responding to terrorism in any environment is a significant challenge. In the transit environment, incident management and resolution may become even more complex.

This enhanced complexity is a result of the unique challenges posed by the transit setting. Transit agencies frequently carry large numbers of people in a relatively small, compact space. In many instances, transit agencies also operate across municipal boundaries necessitating emergency response from a number of jurisdictions. Add to this the unique hazards of high-voltage traction power, subways or elevated structures in the rail setting, or special fuels (compressed natural gas) on buses, and the challenges increase. In addition, an incident occurring at any given point on a system can have significant secondary consequences throughout the system, complicating response and placing additional demands on scarce resources.

Another source of increased complexity is derived from a structural aversion to emergency planning and security issues on the part of some transit systems. Site visits and interviews with transit police officials indicate that many in the transit community place undue emphasis on day-to-day operations, believing that these routine skills will be easily exportable to managing crises and disasters. This reluctance to fully embrace emergency planning may result from the relative inexperience of transit personnel in managing acts of terrorism and extreme violence.

Fortunately, unlike the London Underground, Tokyo's subway, or the Paris Metro, U.S. transit systems have not yet been targeted by terrorist groups. However, lack of experience can lead to complacency. Terrorism is a low-probability, high-consequence event. In an environment of limited funding and competing priorities, it is easy to downplay the likelihood of a terrorist incident and devote scarce police and security resources to only those programs that affect day-to-day operations. An on-going difficulty for many police officials participating in this synthesis is maintaining management focus on the importance of funding terrorism prevention and response programs.

Police officials participating in this synthesis expect that Fat's new System Security Program Planning requirements for rail systems will place additional emphasis on planning for major security events. However, transit police and security officials maintain that increased awareness of emerging threats is essential to effective use of this planning requirement.

### Key Incident Objectives: Guiding Response to Terrorism

Terrorism is an unfamiliar phenomenon to many within the United States. Acts of terrorism appear remote and even somewhat exotic--tragedies that occur in Europe, Asia, or the Middle East. Transit agencies, perhaps because of an institutional focus on day-to-day operations, are somewhat late in recognizing the potential for transit terrorism. Fortunately, this lack of awareness is waning. Transit police agencies and their leadership appear ready to play an important role in this increased awareness and there is a corresponding effort by many transit agencies to improve their response capabilities. Despite this genuine interest, many agencies are still somewhat unsure about developing incident objectives.

To gain a better understanding of the essential activities to be performed during response to acts of terrorism, police officials interviewed for this synthesis recommended reviewing after-action reports and assessments from previous incidents of transit terrorism and other critical events. Several transit police officials participating in this synthesis had traveled to Europe and Japan to receive debriefings concerning bombing incidents and terrorism prevention programs at the Paris Metro, the London Underground and the Tokyo subway. Others had reviewed reports and related materials describing these events and the subsequent transit response overseas. Domestic acts of terrorism were also scrutinized for lessons learned. After-action reports from the 1995 bombing of the Murrah Federal Building in Oklahoma City were of particular interest. While not a transit incident, evaluations of this response effort clearly demonstrate the U.S. approach to managing terrorism, and readily highlight the difficulties of such response.

The Oklahoma City bombing resulted in 168 deaths and 490 documented injuries. In total, 73 municipal police agencies and 33 sheriff's departments, the National Guard, eight state agencies, and two tribal police agencies assisted the Oklahoma City Police Department (OCCUPY) with law enforcement tasks. Federal law enforcement response included

TABLE 3

RANGE OF TASKS PERFORMED BY THE OKLAHOMA CITY POLICE DEPARTMENT IN THE
AFTERMATH OF THE BOMBING OF THE MURRAH FEDERAL BUILDING

- Initial Response: Rescue Victims
- Provision of lifesaving first aid (LSD) and victim transport to hospital
- Setting up triage stations
- Traffic Control: maintaining traffic flow patterns, keeping streets open, directing the flow of emergency equipment
- Call out and activation of OCCUPY response
- Evacuation of proximate buildings
- Establishment of a crime scene perimeter and protection of physical evidence
- Control and placement of responding media
- Assignment of responding medical personnel
- Coordination with fire, police, and medical agencies
- Setting up command post operations
- Establishing communications for OCPD and fire command post and support facilities
- Evidence collection and photography
- Security at FBI command center
- Security of DEA agents and their families
- Security at the Myriad Convention Center (food services, a multi-agency command center, responder lodging)
- Interviewing potential witnesses
- Release of vehicles and property inside the perimeter
- Victim identification
- Providing Liaison Officers (LNOs) to involved agencies
- Issuance of entry passes to outer perimeter
- Issuance of Press Releases and interviews
- Detaining individuals for federal authorities
- Providing security for the victims and victim assistance center
- Escorting VIPs and conducting tours of the blast site

Source: Table derived from the official OCPD After Action Report, See Oklahoma City Police Department,
"After Action Report: Alfred P. Murrah Federal Building Bombing Incident, April 19, 1995."

the FBI (as the lead investigative agency), the BATF, the Drug Enforcement Administration (DEA), U.S. Customs, U.S. Marshals, and the Federal Protective Service. In addition to the law enforcement response, fire service, urban search and rescue (USAR) teams, humanitarian relief agencies, disaster medical assistance teams, CISD teams, search dogs, steel and iron workers, construction and operating engineers, emergency medical and health workers from throughout the United States, as well as a virtual media army, supported the response and recovery operation.

Table 3 summarizes the tasks performed by the OCPD at the Murrah Federal Building bombing. These tasks illustrate the wide variety of issues converging for consideration by transit police and operations personnel when managing a terrorist incident.

Participating police officials stressed that processing and handling the variety of tasks essential for managing a major terrorist incident requires formally stated objectives. Clear objectives established by the Incident Commander or developed and agreed to by all participants in a "unified command" structure help eliminate confusion, while directing and focusing efforts toward response and recovery. Based on OCPD response to the Oklahoma City bombing, Table 4 identifies examples of both general and transit-specific objectives to guide response to an act of transit terrorism. Recognition of these incident objectives focuses emergency response efforts, improving coordination, resource management, and the delivery of critical services.

## ORGANIZING FOR RESPONSE

Transit police personnel interviewed for this synthesis questioned their level of preparedness to respond effectively in the event of an act of terrorism or extreme violence. While the majority of interviewed personnel believed that their organizations could manage such an incident successfully, there was considerable concern regarding the impact that a crisis of this nature would have on command and communication structures, the essential "pipelines" that direct response and coordinate multi-agency efforts. Personnel interviewed for the synthesis also recognized the need to clearly define transit agency roles and responsibilities during such an incident, suggesting that confusion at the scene could hinder essential emergency efforts.

A terrorist attack against a transit system can generate a crisis, a disaster, or both. In the worst case, transit terrorism becomes an intentional disaster. Such an event results in death and severe injury, damage, and disruption to normal systems that cannot be managed through routine procedures and resources; external assistance becomes necessary to effectively manage the event. Essentially, disaster describes the scope of the crisis, while crisis describes the impact on the organization and its ability to cope with the event.

Crises by their very nature are unpredictable, chaotic, and fluid. They occur with little or no warning and require accelerated decision making by key personnel to achieve successful resolution. Crises also entail great organizational and

TABLE 4

TERRORISM RESPONSE: KEY INCIDENT OBJECTIVES

| General Incident Objectives |
|---|
| • **Secure Perimeters** (establish inner and outer perimeters and control zones, contain the situation, avoid the creation of new victims, the contamination of evidence, or the spread of contaminants) |
| • **Control and Identify the Threat** (including CBN agent release) |
| • **Rescue, Decon, Triage, Treat and Transport** impacted persons |
| • **Move Crowds to Safe Zones** (minimize additional casualties) |
| • **Stabilize Incident** (prevent escalation, bring the situation under control so rescue and recovery can proceed with minimal delay) |
| • **Protect Rescuers** (injured responders cannot effect rescue and place an additional strain on scarce resources, potentially jeopardizing operational success). All response personnel should receive an incident specific safety briefing when extraordinary hazards exist. All personnel should be provided and required to wear and use personal protective equipment appropriate to incident conditions. |
| • **Avoid Secondary Contamination** |
| • **Secure Evidence and Crime Scene** (evidence management and crime scene issues are important to the identification of offenders and future prosecution; inner and outer perimeters and proper procedures must be followed) |
| • **Protect Against Secondary Attack** (global experience with terrorist attacks and bombings has shown that secondary attack, *i.e.,* secondary explosive devices intended to injure emergency responders, is a real threat) |
| **Transit-specific Objectives** |
| • **Provide Alternative Modes of Transport** |
| • **Assess and Mitigate Secondary Impact on System** (crowd conditions through the system, particularly at key transfer points, are quite likely to occur depending on the site of the incident; additionally, transit agencies should maintain a high index of suspicion for additional attacks or "copycat" incidents in the immediate aftermath of an attack) |
| • **Rapid Restoration of Service** (restoration of transit service through re-routed vehicles, alternative modes, *i e.,* "bus bridges," and ultimately clearance of the incident scene and repair of damaged areas must be a priority. The quest for restoration of service must be balanced with life safety concerns and other incident objectives) |
| • **Restore Passenger Confidence** (on-going security measures must be reinforced. Transit customers should be advised of enhanced awareness and measures) |
| • **Restore Employee Confidence** (integrate employees into system security team) |

Source: Table is based on a synthesis of experiences encountered at numerous recent terrorist events or threats at transit and non-transit venues in the United States and elsewhere and are not intended to be construed as guidelines.

personnel risk. Successful negotiation of a crisis can impact the sustained viability of both individuals and organizations. Crises are also time sensitive; interventions must be made quickly to avoid additional negative impact. In adversarial situations, such as terrorist or hostage/barricade incidents, crises may also become time competitive in which commanders must make decisions quicker than their opponents to maintain or gain the initiative. Friction, making simple tasks complicated, and uncertainty also pervade crisis situations. Finally, decisions must often be made with vague, incomplete, and often conflicting information.

The unpredictable, chaotic, and dynamic nature of response to on-going terrorist incidents or disasters renders "boilerplate" fixed solutions inadequate, as even the best contingency plans and SOPs become nothing more than a foundation for building an adequate response. To address these needs, a crisis-driven, task-oriented, self-evolving organization must develop. These organizations have been described as emerging multiorganizational networks *(14)*. To effectively respond to an act of terrorism, a system is needed that will ensure interaction among all essential elements and direct all efforts toward achieving a common goal. One such system can be found in ICS.

**Incident Command System: A Tool for Effective Multi-Agency Response**

ICS is a flexible incident management system based on the Southern California FIRESCOPE project. First implemented in the late 1970s to cope with large-scale multi-agency responses to wildland fires, ICS has been successfully used for a wide range of emergency and disaster management applications. These applications range from humanitarian assistance in famines and natural disasters to civil disturbance management. ICS is the standard emergency management framework for interagency wildfire management and is also known as the National Interagency Incident Management System. ICS is required by federal law for response to hazardous materials (hazmat) situations (See 29 CFR Part 1910.120) and is the mandated incident management framework in California. All of the state's local agencies must use California's Standardized Emergency Management System in emergency and disaster management to be eligible for disaster related personnel costs.

ICS is designed to be a flexible management structure for maximizing communication and coordination with emergency response. By combining personnel, facilities, equipment,

procedures, and communication capabilities into a common organizational structure, agencies can enhance their ability to effectively manage a major incident.

ICS departs from routine transit organizational structures and enables the creation of a temporary emergency organization uniquely matched to the requirements of the incident. It allows transit police and operations personnel to work with other emergency responders to establish a common set of incident objectives, and a single plan for managing the incident. This unique feature of ICS is also referred to as "unified command."

## ICS Management Concepts

The FIRESCOPE working group identified six common failures of emergency management organizations:

- Lack of a common organization,
- Poor interagency communications,
- Inadequate joint planning,
- Lack of accurate and timely intelligence,
- Inadequate resource management, and
- Limited predictive capabilities.

To counter these failures, the FIRESCOPE working group established seven operating requirements for their newly developed ICS:

- The system must provide for a wide variety of operations including: single jurisdiction responsibility with single agency involvement, single jurisdiction responsibility with multi-agency involvement, and multi-jurisdiction responsibility with multi-agency involvement.
- The organizational structure must be adaptable to include any emergency faced by public safety agencies.
- The system must be applicable and acceptable to all user agencies.
- It must be capable of rapidly expanding from an initial response effort into a major incident response, while retaining the ability to reduce its size as incident demands decrease.

- It must have common terminology.
- Implementation should cause minimal disruption to existing systems.
- It must meet these needs while remaining simple enough to ensure understanding.

The resulting organizational structure consists of five major predesignated functions: command, operations, planning/intelligence, logistics, and finance/administration. Figure 15 presents a sample ICS organization used in response to a critical incident in the transit environment.

While this figure may appear confusing to those not familiar with the system, an ICS organization is customized to match the function or task to be performed. Only those functional elements necessary to meet the needs of the situation are activated. Elements no longer needed are deactivated.

## Understanding and Adapting the ICS Structure

ICS has been tried, proved, and refined since its conception. Its effectiveness as an emergency management system is now recognized throughout the United States by most major response organizations.

Nevertheless, many small police agencies look at an ICS organizational chart and believe that they do not have enough personnel to use the system. Similarly, some transit agencies look at the system and believe it is too regimented for their use. Some point out that transit systems do not fit neatly into the ICS format. However, as recommended by police personnel participating in this synthesis, ICS works well for both small and large agencies, and transit functions do fit into the five ICS functions.

Because many U.S. transit systems have little experience with major disasters, the potential benefits of ICS are not readily apparent. Routine organizational structures are adequate to manage normal operations and minor emergencies. During day-to-day operations, or minor incidents, only a small number of responders are necessary. These personnel perform routine tasks with little interaction from outside agencies. Standard procedures and routine communication channels provide adequate information on surrounding circumstances.
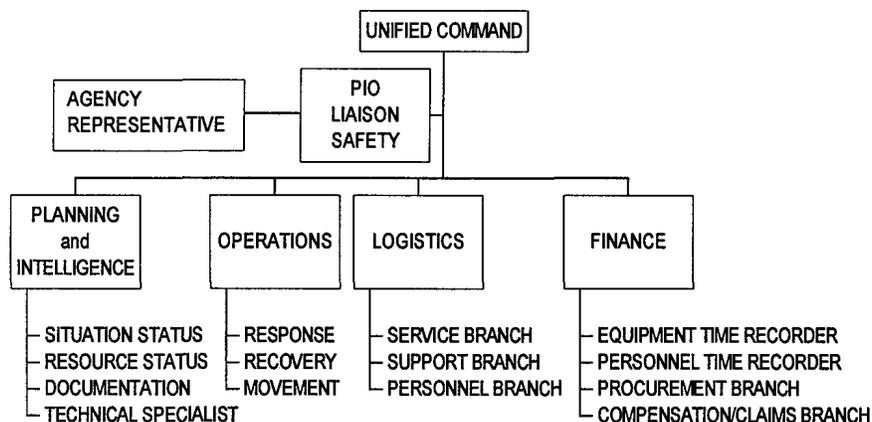


FIGURE 15  ICS structure.

As a result, a dedicated intelligence section is not needed since operational information is readily available (e.g., trains or buses operate on predictable schedules and minor deviations can be accurately reported through existing mechanisms). Logistics is not a problem because all personnel and equipment needed for the operation are available.

Contrast this with the situation frequently faced in response to catastrophic disasters. Numerous agencies respond. Unfamiliar and unanticipated tasks are required to bring the situation under control. Existing policies or directives may not cover the situation encountered. The normal flow of information may be interrupted and normally predictable system activities may no longer occur. Frequently, more equipment and personnel are required, and many of the materials needed may not be available locally Specialized equipment may be required to begin operations.

ICS provides a framework for addressing these needs. First, needed interoperability with external responders is assured through common structure and terminology. A planning/ intelligence section is in place to assess the impact of the situation and evaluate potential courses of action. Together with the operations section, an IAP is developed to ensure responses when routine procedures fail. The operations section works with the logistics section to obtain necessary equipment. When resources arrive, they are "staged" to ensure appropriate usage. Rather than just "throwing people" at the problem, the appropriate resource for a given challenge is applied. Finally, the finance section tracks all incident costs and expenditures, thus expediting fiscal recovery. The ICS organization follows a manageable span-of-control, allowing supervisors to keep track of the activities for which they are responsible without becoming overwhelmed by events.

The resulting ICS structure will have personnel assigned to modular functional groupings ensuring access to intelligence (situation and resource status), operations personnel executing the IAP, and logistic personnel obtaining the resources needed to manage the event. The operations section could, for example, be headed by an Operations Section Chief (OCS) or Officer-in-Charge (OIC) who directs response, recovery, and movement branches or groups. The response branch or group would be charged with typical incident response duties, such as rescue and scene management (traffic and crowd control). The recovery branch or group would be charged with duties needed to restore transit service (removing debris, reconstructing damaged track, restoring signal capability). The movement branch or group would be responsible for managing alternative transportation for system patrons, such as bus bridges.

Adoption of ICS as a management tool can contribute to more effective management of crisis, major emergency, and disaster situations by both transit police and transit operations personnel. Further, as recommended by transit police personnel participating in this project, ICS should form a key element in preparation for potential acts of transit terrorism.

## CLARIFYING THE TRANSIT ROLE: RESPONSIBILITIES FOR INCIDENT MANAGEMENT

In the event of a major act of transit terrorism requiring full-scale response from local, state, and federal law enforcement and emergency management organizations, the local police or fire department will probably assume ultimate control over the scene (at least during the initial phases of the event). However, according to police officials interviewed for this project, transit police and operations personnel still play a crucial role in incident management.

While specific responsibilities or jurisdictional issues may vary among systems, some activities are common to all. All transit agencies have the initial responsibility for situation assessment and requesting response from local police and fire departments. Not all transit agencies have their own police force, and not all transit police have investigative responsibilities for complex crimes. Even systems with their own police investigators require investigative and operational support from local police agencies. In all incidents meeting the FBI terrorism definition, the FBI will be the lead investigative agency.

As the Oklahoma City experience has shown, the local police play a major role in responding to terrorist incidents. It is reasonable to expect this to be the case in transit incidents as well. However, transit police and operations personnel will have essential experience and familiarity with the transit system, including its terrain, risks, hazards and characteristics. They also have a major stake in incident resolution, since it is their system and their patrons who have been victimized. Accordingly, transit police and operations personnel should join with other key response agencies in a unified command structure. Even if unified command is not employed and a single agency commands emergency response efforts, transit personnel need to maintain close liaison with and provide technical assistance to response and investigative activities.

In many cases, the role of transit police agencies will be to act as first responders and then provide technical assistance and support (e.g., crowd control, securing crime scenes, escorting specialized investigative teams) to the investigative and emergency response agencies. In addition to this support role, transit police will assume the lead role in assessing and managing secondary impacts throughout their system.

Finally, response to terrorism is not solely a law enforcement responsibility. Fire service, EMS, and medical response is essential. As a result, effective planning and response efforts for terrorism must fully integrate the fire service (including suppression efforts, EMS operations, hazmat teams, USAR, and the medical and public health communities).

## First Responder Considerations

When a terrorist incident or disaster occurs, a large number of people and agencies will be called on to address the many individual actions required to resolve the incident. This process will be initiated by the first responders from a number of disciplines. Dispatch or control center personnel receiving the initial notification are also key to initiating an appropriate response and should closely coordinate their activities with first responders. At a rail transit system, such responders may include the transit police, transit operations personnel, local police, firefighters, and EMS providers. During this immediate response phase, efforts will be focused on assessment of the

situation (also known as "size-up") to develop a situation estimate, containment of the incident (through police lines, fire lines, or a perimeter) to prevent additional casualties and preserve evidence, the search for additional terrorist devices, and notifications.

In a terrorist incident, on-scene command usually will be initiated by the police (either transit or local law enforcement) with the intention of developing a unified command among key response agencies.

According to police officials interviewed for this synthesis, the situation estimate developed from the initial assessment should contain the following information:

- Type of emergency,
- Location,
- Size of involved area,
- Number and type of casualties,
- Special hazards, and
- Assistance required (i.e., number of police officers, transit vehicles, utilities, etc.).

Once the assessment is completed and immediate assistance is requested, establishment of a command post (CP) is essential. According to police officials interviewed for this synthesis, the CP should be near, but *not* within the area of the incident. Experience has shown that it is a common mistake to locate the CP too close to the incident, subjecting CP staff to unnecessary risks and frequently requiring a CP to move several times during an incident. Command, control, and communications are disrupted while the CP is disassembled, moved, and subsequently reassembled.

A functional command post also must be accessible. According to interviewed officials, it should be large enough to accommodate all necessary personnel and the tools needed to support them (white boards, maps, radios, resource guides, laptop computers). A CP also needs communications capabilities, including hardline telephones and fax, cellular phones and fax, and radio capabilities. It is important not to locate a CP in a radio/cell dead spot. Also, hardline phones are preferable because cellular phones are rarely secure and are subject to interception by any number of unintended recipients. In large incidents, cell sites are often saturated and become unavailable because the media and other responders frequently make calls and keep the connection open to ensure access. Further, a CP requires work space (desks, table tops) as well as coffee and access to restrooms and other amenities. Ideally, according to officials participating in this synthesis, a CP for an extended or sustained operation will be located inside a building (a school, gymnasium, unoccupied store, or other similar site) or in a mobile command post facility (trailer, converted mobile home, or bus).

The following list summarizes objectives and considerations for initiating response:
- Assess the situation (size-up),
- Communicate the assessment to dispatchers (also identify responder hazards),
- Provide direction to incoming units (safe approach, safe staging/mobilization areas),
- Establish containment (preserve the scene, inner/outer perimeters, zones of operation),
- Determine need for immediate protective measures (evacuation/in-place protection),
- Select and communicate CP location,
- Establish a unified incident command,
- Develop immediate objectives and an action plan, and
- Request appropriate staffing/equipment.

This group of objectives or critical functions allows the first responder to establish command and initiate an effective response upon arrival. Initial response personnel may not become involved in tasks such as rescue or triage, but must marshal the resources to do so. By establishing command based on an assessment of what is occurring, priorities and objectives can be determined (such as rescuing passengers and employees, extinguishing fires, rerouting trains, securing evidence, establishing a bus bridge/shuttle service). The appropriate resources can then be applied to ensure completion.

## Forging an Integrated Response: Developing an Incident Action Plan

After first response, the work of incident management begins. During this "operational period," police officials participating in this project recommend the development of an Incident Action Plan.

The IAP sets forth the objectives to be achieved and describes the strategy, tactics, resources, and other support necessary to do so. The IAP is a tool to ensure uniformity of response and interagency coordination, particularly in large-scale events or incidents involving multiple agencies and disciplines.

Effective incident response and consequence management requires integrated operations among all responders to a terrorist incident. Interagency coordination is an essential element of integrated response, yet it does not occur automatically. Coordination difficulties are common features in virtually all responses to complex emergencies and disasters. Planning is essential to ensure coordination and effective response. Planning, however, is not solely a function of pre-incident preparedness. Development of an IAP based on a realistic awareness of the current situation and available resources is an ongoing process. The information needed to prepare an IAP is derived from intelligence. Information vital to setting incident objectives or selecting a specific course of action is known as Essential Elements of Information (EEIs). These EEIs will be verified and relayed to command personnel to facilitate decision making.

Police personnel participating in this project identified the need for a mechanism to assist in obtaining and processing the data necessary for developing the IAP. Intelligence Preparation for Operations (IPO) is such a mechanism. IPO provides for crucial assessments, including a comprehensive awareness of the impacted area (in the transit setting, for example, this could include system maps, the location of emergency access hatches, emergency phones, power shut-offs, passageways and track represented in maps, diagrams, and engineering

drawings; information/floor plans on rolling stock and station areas; employee rosters detailing specialized skills, equipment rosters and the like); detailed weather information; and up-to-date situation and resource status. Important in handling "normal" transit emergencies, this information is vital in response to transit terrorism, which is always an interagency operation. "These requirements are even more critical for interagency operations because they entail collaboration among personnel from different backgrounds with diverse types of experience and various organizational missions" *(15).*

According to police officials participating in this synthesis, effective interagency coordination is only possible if four key elements for crafting response are recognized and exploited in the IAP. These elements include *Assessment, Development of possible resolutions, Planning, and Execution.* Assessment involves the situation estimate or size-up described earlier, but includes its continuation throughout the course of the incident through situation and resource status reports. Development of possible resolutions involves recognizing operational and intelligence requirements to conduct a situation evaluation matched by a determination of logistical status. Planning allows a meaningful selection of the focus of effort at each stage of the operation (focus of effort will shift, for example, from rescue and treatment of the injured to recovery of the dead, to removal of debris, to reconstruction, and so on to the conclusion of response). This will then be used by the IC to select a strategy and state objectives that will be contained in the IAP. Execution involves the actions necessary to implement the IAP and any necessary follow-on activities.

Information contained in the IAP includes the following:

- *The situation* must be described (what happened, what is the threat or risk to responders, what agencies are responding and what is the role of each).
- *The mission* must then be clearly and concisely stated so all responders are familiar with the goals and objectives. The plan should detail the concept of the operation and operational concerns; in other words, how to achieve the mission and reach the desired end state, as well as dealing with issues that may complicate execution.
- *Logistics* concerns must also be addressed. Resource awareness is a critical need. The IAP must identify and catalog a wide range of necessary equipment and providers to ensure effective response. Additional logistical issues include food, fuel, lodging, equipment, transport, maintenance for incident response, as well as the availability of items needed for recovery, such as replacement railcars, track and ballast, supplies for temporary bridges and stations, etc.
- *Command and signals* must be specified. The IC command pathways, and key decision makers must be stated. Communications (also known as signals) issues such as radio frequency allocation should also be addressed.

## Managing Incident Response

Responding to a major transit terrorist incident, particularly one causing significant casualties, damage, and disruption, is

a significant emergency management task involving numerous emergency personnel from multiple disciplines. For example, police response to the Murrah Federal Building bombing in Oklahoma City resulted in nearly 42,305 workhours by 1,582 personnel, and this figure does not include federal investigators and technicians or fire service and urban search-and-rescue personnel. Similarly, police response to the January 1987 Amtrak/Conrail rail crash in Maryland brought 793 police officers to the scene in addition to railway personnel and the fire and rescue services.

Management of such complex incidents can be facilitated through the use of two emergency management tools: the field or incident command post (CP) and the emergency operations center (EOC). A field CP handles all aspects of tactical command and incident operations at the scene (or field level), while an emergency operations center is concerned with strategic resource management throughout a transit system or municipality. An EOC serves as the focal point for crisis decision making, coordination with other levels of government, and resource allocation between the incident scene and other impacted areas (or among separate incidents occurring within the same period of time). An EOC supports the field CP, while the CP exercises command and control of all operations at the incident. Generally, the ICS, as described in previous sections of this report, serves as the basic organizational framework for both command post and emergency operations center staffing.

*Scene Management: CP Operations*

Typical scene management tasks include rescue and the provision of first aid, urban search and rescue to extricate entrapped or entangled persons from collapsed structures, fire suppression, traffic control, crowd control, crime scene management, and hazard control. In the transit setting, crowd control becomes a concern at the immediate scene, as well as at critical points throughout a transit system. Additionally, electric power may have to be shut down to allow safe rescue operations. Signal and track maintenance personnel have key roles to play. Meanwhile, transit personnel at the scene must keep the control center updated so routine operations at other points of the system can be sustained or resumed.

These scene management tasks are coordinated from a field CP. Once the first responders arrive on-scene, a CP must be selected. For a major incident, a unified CP is usually preferable. Key issues in CP establishment include

- Location,
- Staffing,
- Security and access control,
- Identification of command pathways, and
- Identification and location of decision makers for each responding agency.

Other important considerations may include

- Maps and reference materials,

- Allocation of radio frequencies,
- Provision for response rehearsal of hazardous tasks,
- Provisions for incident safety briefings, and
- Provisions for debriefing and after-action reporting.

Once an on-scene IC is selected or a unified command is established, the IC will need to appoint a staff. Generally a field CP staff will consist of a Public Information Officer, a safety officer, a liaison officer, an incident staff aide (scribe) to record key events, and support personnel organized into planning/intelligence, operations, and logistics functions (with each section headed by a chief or officer-in-charge). A finance section is not always established in a field setting; however, in major incidents one should be established as soon as feasible. Radio frequencies supporting CP operations should at a minimum include command, tactical, and coordinating frequencies.

Personnel from the transit police and transit operations should be present at the CP either as members of the unified command or as agency representatives. Those in charge of transit police and transit operations should be designated as the transit On-Scene Coordinator unless they are designated as the IC or fill another ICS functional role.

Finally, scene management functions need to be closely coordinated with operations throughout the transit system to minimize secondary incident scenes and speed recovery and restoration of service.

*Strategic Management: Emergency*
*Operations Centers*

EOCs are mechanisms for enhancing the management of crises, emergencies, and disasters at a strategic or systemwide *(i.e.,* throughout a jurisdiction as a whole) level. EOCs, which are also known as emergency coordination centers or department operation centers when they serve as a crisis coordination point within a single department within a jurisdiction, typically are charged with overall policy and resource coordination in events impacting an entire jurisdiction or transit system.

As with field responses, EOCs rely on ICS organizational and management concepts. Information management is a key EOC function. Collection of system status data and the verification of damage assessment information are typical EOC functions. EOCs also can play a vital role in determining the availability of mutual aid resources and logistical and material support on behalf of the field CP. EOCs have the responsibility to transmit information to other levels of government, for example from a transit authority to a county or state. This link is essential in being reimbursed for disaster related expenses incurred during state or federally declared disasters. EOCs can also play key roles in expediting recovery and restoration efforts. While EOCs are grounded in civil defense practice, they have been broadly adopted as a disaster management tool. Disaster sociologist T.E. Drabek observes that even when EOCs are not part of the disaster plan, one frequently develops spontaneously to meet the inherent need for interagency communication and coordination *(16).*

## Reconciling Crisis and Consequence Management

Response to a major incident can be divided into two elements: crisis management and consequence management. This distinction is derived from the federal distribution of responsibilities articulated in Presidential Decision Directive 39 (PDD-39) which describes the Federal response to terrorism. While the distinction does not directly impact the role played by local responders, understanding of the federal response schema will greatly reduce confusion and potential role conflict at an actual incident. Crisis management is defined as measures to resolve the hostile situation, investigate, and prepare a criminal case for prosecution under federal law. Consequence management, on the other hand, defines those measures that alleviate the damage, loss, hardship, or suffering caused by emergencies. These include measures to restore essential government services, protect public health and safety, and provide emergency relief to affected entities.

Crisis management response falls under the jurisdiction of the federal government with the FBI acting as the lead agency. Crisis management response involves measures to confirm the threat, investigate and locate the terrorists and their weapons, and capture the terrorists. Consequence management response is within the jurisdiction of the affected state and local governments. Federal agencies support local efforts under the coordination of FEMA.

Crisis management focuses on criminal intelligence and investigations with the goal of preventing or interdicting the act or containing or minimizing the consequences of an incident. When an incident is determined to be a terrorist act, on-scene command will be assumed by the FBI field office with national command and control at FBI Headquarters in Washington, D.C. In the early stages of an incident, particularly one without prior warning, local police will play a major crisis management role pending arrival of FBI personnel. (Arrival of FBI personnel on the scene may take some time.) Collaboration between the local police and FBI will continue throughout management of the incident. FEMA has the lead in consequence management at terrorist-caused disasters and will coordinate federal support to local agencies using the Federal Response Plan (FRP), for Public Law 93-288, as amended April 1992.

Effective resolution of a terrorist incident requires close integration of crisis and consequence management efforts. Ideally, crisis and consequence management work as individual threads that weave together in the effort to resolve the incident. Effective incident resolution requires a high degree of coordination among all responding entities. Response must fully integrate the resources, knowledge, and skills of police, transit personnel, and emergency responders.

## FEMA Emergency Support Functions

Effective incident resolution will require transit personnel in both operations and police roles to recognize their limitations

as well as their potentially vital contributions to response. Similarly, transit agencies and their police need to be aware of the tensions incumbent in response to a transit terrorist incident. These primarily involve tension between rescue and investigation, and investigation and rapid restoration of service. Unified command is a useful way of reconciling the tensions that can develop between crisis and consequence management objectives.

Effective integration of a multiagency response also requires an understanding of the roles and functions of responding agencies. Federal support for managing the consequences of a major terrorist incident will be organized through predesignated emergency support functions (ESFs). These functions, which draw on the entire range of federal resources, would be coordinated by FEMA to support local incident response and recovery efforts. Figure 16 provides an overview of pertinent ESFs.

| FEDERAL ESFs Most Likely to be Employed in Response to a Major Transit Terrorist Incident |
| --- |
| ESF  1      Transportation |
| ESF  2      Communications |
| ESF  3      Public Works and Engineering |
| ESF  4      Information and Planning |
| ESF  5      Resource Support |
| ESF  8      Health and Medical Services |
| ESF  9      Urban Search and Rescue |
| ESF 10      Hazardous Materials |

Figure 16 FEMA emergency support functions.

## Managing Communications Media Complications

Crises and disasters generate high levels of media interest. No crisis is more intimately linked with the media than terrorism, since terrorism is in large part only effective when its violence is communicated to a wider audience. When a terrorist incident occurs, the public affairs environment will be volatile. Representatives of the radio, television, and print media will converge on the scene seeking information. In a major incident, the public affairs representatives of the response, investigative, and transit agencies, known as public information officers (PIOs) or public affairs officers (PAOs), can be faced with a secondary "media crisis."

The public affairs environment in the aftermath of a major terrorist incident will be characterized by a media frenzy as news outlets seeking to meet deadlines compete to gain access to multiple information sources to get their story out first. Ensuring accurate coverage that minimizes negative impact on

the response operations will be further complicated by a lack of media understanding of the technical aspects of police, emergency, and transit operations. Additional complications may include diminished information verification, and an influx of national and international media (due to a global focus) as representatives converge on the site.

To effectively cope with this phenomenon, it is essential that a PIO/PAO team be assembled to manage the media aspects of the incident. This team should be directed by a qualified lead PIO and supported by a crisis communications plan. No single agency can deal with the media to control or "spin" information. The press and electronic media will seek their story from as many separate vantage points as possible. The expectation that only the transit system will provide information about incidents occurring in or on the system (which is the philosophy at some systems) is unrealistic, particularly in the case of terrorist incidents, which are characterized by response from a number of agencies and levels of government. One effective way to address the complex media needs is the establishment of a Joint Information Center (JIC), with all participating agencies contributing personnel to the PIO/PAO team.

Establishment of a JIC helps limit misinformation, interagency rivalry, and contradictory messages. Within the JIC structure, the lead PIO needs direct access to the IC/Unified Command. This person also needs immediate notification of incidents and timely situation status reports. Adequate logistical support to the PIO/PAO team is also essential. A well-organized, well-informed JIC and PIO/PAO team must be able to tell the story through frequent briefings that are characterized by candor and maximum disclosure with minimum delay.

## Integrating Response and Recovery

The final element of effective response is the need to integrate response and recovery operations as early as possible. Once the incident shifts from the initial first response phase into actual rescue and response operations guided by an ICS organization, assessment and planning for recovery must begin. Recovery planners have to gather information on situation status, resource status, and damage assessment in order to formulate a plan for recovery and restoration of service. Recovery issues should be addressed through a recovery branch or group.

## FURTHER INFORMATION

For additional information on the "response" phase of emergency management, please see Appendixes C, D and E of this report.

CHAPTER SIX

# RECOVERY AND POST-INCIDENT RESTORATION

This chapter presents information obtained from surveys and site visits involving activities performed in the transit environment to address the last generally recognized phase of emergency management: recovery.

## SHIFTING FROM RESPONSE TO RECOVERY

As described by transit police and operations personnel participating in this project, achieving restoration of service involves shifting incident management efforts from the response phase to the recovery phase. The focus moves from such activities as the rescue of injured persons, evacuations to prevent additional injuries, and firefighting, to preparing trains, rights-of-way, stations, and facilities to once again move passengers. This shift, however, does not occur solely at the "command" of incident management personnel (at the scene or monitoring operations from a control center or EOC). Rather, as established in the preceding chapter, recovery must begin *during* the response phase to ensure an effective return to normal operations.

Recovery efforts are most successful when they are based on realistic planning. Recovery planning during a major transit incident requires the answers to such questions as

- When will rescue efforts be completed?
- When will investigative efforts and regulatory inquiries be completed?
- Is the system structurally sound for operations?

In major incidents, recovery may require replacing track and ballast, building temporary stations, and obtaining new equipment. Such efforts can be accomplished in less time if mechanisms for obtaining materials and personnel for system reconstruction are identified in advance. For example, 43 percent of the systems surveyed for this synthesis have identified alternative dispatch centers, while 29 percent have identified mechanisms for obtaining replacement equipment.

### Incident Completion

At a major terrorist or quasi-terrorist incident, the FBI may be responsible for the criminal investigation. This may include managing the crime scene with the support of other federal and local law enforcement agencies. Typically, the scene cannot be cleared until approval has been given by the local coroner or medical examiner to remove all fatalities. In addition, law enforcement authorities require unimpeded access to the scene to collect evidence, take measurements, photograph the

area, and perform other investigative functions. Once the criminal investigation is complete, law enforcement agencies may return the scene to transit control.

It is also likely that a regulatory inquiry by the National Transportation Safety Board (NTSB) will be conducted in conjunction with the criminal investigation. Resumption of passenger service requires NTSB approval. Effective integration of post-incident inquiries into recovery operations can be enhanced by integrating NTSB and regulatory representatives into system preparedness drills. Once these activities are completed, the transit agency will once again control the scene At this point, recovery will be the dominant activity. All efforts can be focused on repairing the damage and reestablishing service.

### Demobilization and Redeployment

A major incident results in the mobilization of personnel from a number of agencies and disciplines. After the initial stabilization of the incident scene, some responders may complete their respective missions and be replaced by others who will assume new ones. According to police and transit personnel participating in this project, an essential element of recovery is complete tracking of personnel, including their activities and status. Such tracking allows personnel to be redeployed to new tasks or new incidents as required. It is a complex task and one that needs to be fully integrated into the incident management structure to ensure optimal deployment and use of personnel. This task includes both the tracking of hours (for both personnel and equipment) spent at the incident, and recovery of specialized tools and communications equipment.

Once the incident is concluded, personnel can be released from the scene or, if necessary, follow-on missions can be arranged. For example, transit police officers who provided scene security during the response phase of a transit terrorist incident could then be redeployed to high-visibility foot patrols on board trains and at stations in the weeks following the incident to bolster passenger confidence.

### Incident Debriefing and After Action Reports

Transit police and operations personnel interviewed for this synthesis emphasized the importance of conducting incident debriefings and After Action Reports. Careful capture and documentation of response activities is an important aspect of major incident response and should be conducted at the end of each shift as well as when the incident is over.

Major incident debriefings and After Action Reports are valuable because every complex incident is different in terms of behavior, staffing, and mobilization. Incident debriefings and After Action Reports provide a way to

- Review interagency relationships and minimize interagency misunderstandings,
- Review decision-making processes,
- Ensure a formal review of problems encountered,
- Learn from innovations developed during incidents, and
- Aid responders in coping with the stresses of complex, traumatic events.

An immediate informal debriefing should occur as soon as the incident or response period is over. This enables vital information to be collected without being overlooked. These informal debriefings should be followed by a formal interagency After Action Report within a couple of weeks.

## Clean-up and Restoration of Normal Operations

Once response activities are concluded, the incident scene can be cleaned up and preparations for restoring normal operations can begin. Some incidents, for example those involving hazardous materials, require outside contractors to remove environmental contaminants. In all cases, the incident scene will have to be assessed. Automated equipment must be tested by safety engineers to ensure its capability to safely resume operations. Finally, all response and recovery personnel must be advised when service resumes. Response and recovery personnel must also replenish supplies to ensure readiness in case of new incidents.

## Follow-On Concerns

Once the actual scene management of an incident is complete, a number of tasks remain. These tasks include

- Coping with ongoing investigations,
- Restoring passenger and employee confidence, and
- Managing critical incident stress issues.

### Coping with Ongoing Investigations

A transit terrorist incident is likely to result in a major investigation. Once scene management and crime scene activities are complete, investigators will continue investigations necessary to identify and arrest those responsible for the act. Once suspects are arrested, the investigation continues to ensure the effective prosecution of the persons involved. During this process, transit personnel working immediately prior to and during the incident are likely to be interviewed, communications transcripts examined, and similar activities conducted.

Additionally, emergency operations plans and procedures are likely to be scrutinized by regulatory agencies to assess their effectiveness during the emergency. System design features may also be examined. For example, after the December 4, 1996 bombing on the Paris Metro, transit officials initiated a study to examine the effectiveness of redesigning train and bus interiors to remove potential hiding places for bombs and to provide for wider use of surveillance cameras.

### Restoring Customer and Employee Confidence

In the aftermath of a transit terrorist incident, passenger and employee confidence must be restored. One of the goals of terrorism is to strike terror into the hearts of the public and erode its confidence. After the 1995 bombing campaign against Paris transit systems, ridership declined. In Israel, warnings of terrorist bombings against buses in October 1996 resulted in a 20 percent drop in intracity bus travel according to Israeli officials *(17)*. Immediate, positive actions by the transit agency and police are vital in restoring confidence and countering fear.

In the aftermath of the Paris bombings, French police adopted high-profile patrols. The system broadcast announcements asking passengers to be alert and to report any suspicious packages, and transit personnel distributed handouts urging passengers to be vigilant. Eight thousand trash cans were sealed the day after the December 4, 1996 bombing. Heightened security measures were extended throughout France as 1,800 police officers and soldiers were posted at air and ground transport terminals as part of "Operation Vigipirate."

Similar steps have been adopted in the aftermath of other major events. Police at several systems heightened uniformed patrols on trains and at terminals immediately after the Long Island Rail Road shooting and the Fulton Street firebombing. In several cases, these patrols were publicized in the local media. Steps to bolster employee confidence have included security and bomb awareness briefings conducted by transit police for transit personnel.

### Managing Critical Incident Stress Issues

Terrorist incidents, like other incidents resulting in mass casualties and death, place emergency responders under significant stress. Facing widespread devastation challenges even the most resolute and experienced emergency responder. Unless the psychological impact of such events is recognized and acknowledged, responders can suffer emotional damage. The emotional trauma that occurs after individuals are forced to endure widespread devastation is known as post-traumatic or critical incident stress. Recognizing the long-term effects of placing persons in contact with the horrors of mass casualties has led to the development of Critical Incident Stress Debriefing (CISD).

Most emergency response agencies in the United States have implemented CISD programs to help employees manage the stress associated with responding to major incidents. Transit agencies also typically employ similar efforts to assist train operators in coping with traumatic grade-crossing or train-pedestrian accidents. Peer counseling and chaplain programs are also valuable. According to police officials interviewed for this synthesis, such programs should be incorporated into transit terrorism response plans as an essential element of incident recovery.

CHAPTER SEVEN

# CONCLUSIONS

Terrorism remains a sinister yet poignant force in world affairs. A number of groups, with political, nationalistic, and increasingly radical ethnic and religious focus, continue to use terrorism as a means of spreading their message and influencing political discourse. During the last 20 years, and particularly within the last 5 years, terrorists have been more violent with individual incidents yielding greater injury and death, and have demonstrated an increasing tendency to target transit systems.

The stakes have never been higher for police and security professionals engaged in protecting transportation systems. The purpose of this synthesis is to provide information on the current practices of transit police and operations personnel to mitigate and respond to acts of terrorism and extreme violence.

Transit agencies now recognize that they have a proactive role in terrorism mitigation. In addition, transit agencies have begun to develop programs and plans emphasizing the unique consequence management skills required for effective response to such events. While most agencies still rely on a general emergency plan to establish the command and control architecture necessary for direct response to a terrorist incident, these plans have been supplemented to include policies and procedures that can be applied to terrorist incidents, including those for notification, incident command, crime scene preservation, urban search and rescue, perimeter management, and media/public information requirements.

New partnerships have been formed with local, state, and federal agencies to improve the cooperation and coordination essential for effective exchange of information and intelligence concerning potential terrorist acts and the management of actual terrorist incidents. Training and drills addressing terrorism response have also been developed and conducted at most major transit authorities during the past 5 years.

Developing improved terrorism mitigation and response capabilities continues to be a concern in the transit community. Key elements in the quest to prevent, interdict, respond to, and mitigate the impact of terrorist acts have been presented in this synthesis. These activities were organized according to the four generally recognized emergency phases: mitigation, preparation, response, and recovery.

This synthesis also described new programs initiated by the federal government to support terrorism preparedness in public transportation. The FBI has expanded its focus on transportation terrorism to include mass transit systems and infrastructure. Transit agencies now participate in terrorism task forces and councils. Training programs are offered for transit police organizations emphasizing both terrorism prevention and response. Finally, the FBI has improved the dissemination of both classified and unclassified materials and analysis to transit agencies in areas deemed to be at risk. For example, the FBI worked closely with the Metropolitan Atlanta Rapid

Transit Authority (MARTA) leading up to and during the recent Olympic Games.

In addition, the U.S. Secretary of Transportation has established a transit security "hotline" which callers can access 24 hours a day to report threats or incidents. Further, OIS, working with and through FTA, circulates threat warnings to the largest transit agencies, identifying security/terrorist occurrences or possibilities of occurrences that could have a potential impact on system operations.

While federal activity and support for transit terrorism preparedness has still not reached levels comparable to those of the aviation industry, recent efforts represent a marked improvement in the availability of federal resources and programs to support anti- and counterterrorism initiatives in the transit environment. However, participating police officials recognize that there is more to be accomplished. Primary obstacles to improved transit terrorism preparedness identified in this synthesis include

- Limited financial resources to support personnel, training, and equipment costs,
- The difficulty of developing or obtaining accurate and timely intelligence concerning threat levels and potential terrorist activity,
- The need for improved support from the FBI and other federal agencies for training and response guidelines, and
- Enhanced coordination to support improvements in tactical response to emergencies involving terrorism and acts of extreme violence, including use of the ICS.

## FUTURE STUDY

On the basis of information gathered for this synthesis, the following topics have been identified as worthy of future study and consideration.

### Preventive Intelligence

Currently, transit police and operations personnel have limited access to the type of intelligence necessary to direct effective terrorism deterrence programs. Transit police departments in large urban centers rely on coordination with local police and limited interface with the FBI to obtain threat information. Smaller transit systems, and those with no police or security department, have considerably less access to this information. The Transit Security Information Circulars developed by the USDOT OIS have become a critical component in the intelligence effort of many transit agencies. As demonstrated by both the survey results and site visits, these circulars

are used in the transit community as perhaps the most important initiative taken by the federal government specifically to improve preparedness for transit terrorism.

Many police and operations personnel interviewed for this project would like to see the role of USDOT OIS expanded further. Primarily, participating officials believed that the US DOT OIS is in the best position to improve the quality of preventive intelligence through enhanced coordination with both the FBI and other USDOT modes (i.e., FTA, Federal Railroad Administration, Federal Aviation Administration (FAA), Coast Guard). This Office has already demonstrated its capabilities to communicate critical information to the transit industry quickly and effectively. Participating officials also recommended that OIS Transit Security Information Circulars be distributed directly to local law enforcement agencies.

## Rotations of Transit Police and Operations Personnel

To support USDOT efforts to develop useful programs to address transit terrorism, some police officials suggested rotating transit police and operations personnel through several USDOT agencies with programs devoted to transit security, including the USDOT OIS and FTA's Office of Safety and Security. These rotations could last for a few months or even a year and would provide local transit agencies with a valuable opportunity to influence the programs being developed to improve terrorism prevention and response in the transit environment.

## National Transit Terrorism Threat Warning System

Several participating officials suggested developing a national system for warning transit agencies of higher threat levels for terrorism. This system, comparable to the one developed by the FAA for airports and air carriers, would designate threat levels and recommend additional activities to be performed to improve deterrence capabilities.

## Regional Transit Terrorism Working Groups

The relative isolation of transit police and operations personnel exacerbates difficulties in developing programs to prevent and respond to terrorism. Creating Regional Transit Terrorism Working Groups would provide an opportunity for

transit police and operations personnel to work together to develop plans and procedures to improve response capabilities. Critical issues could be discussed and limited resources pooled. For example, these working groups could provide a forum for discussion of such issues as the use of the ICS in the transit environment, the procurement of explosives detection technology, and the design of mobile command vehicles. In the event of a terrorist incident, regional transit systems would be better prepared to work together to assist the impacted system and community.

## Training and Model Workshops

Survey results and site visits indicate that transit terrorism training provided by the USDOT and the FBI has been well received by the transit community. Survey results, in particular, indicate considerable interest in additional USDOT- and FBI-sponsored training programs and workshops. However, FTA would require more funding for these activities and is currently faced with the possibility of fewer such activities.

Local police and fire departments build confidence in crisis management skills through experience. The lack of experience in the transit environment has been identified as a major problem in developing improved response capabilities. Training workshops, which use role-playing and simulation to take participants through the stages of response to an actual act of transit terrorism, could be very beneficial, providing needed "experience" in the elements of emergency response. General training programs supporting the use of ICS and including local police and fire departments could greatly reduce resistance to this essential emergency management tool.

## Technology

A general finding of this study is that the transit community needs to actively solicit technological assistance toward the development and exploitation of anti- and counterterrorist technology. Among the technological adjuncts that can benefit efforts against terrorism are point and portable stand-off detection systems. Such devices promise the ability to alert responders to the presence of chemical or biological agents and high explosives. Other technologies include explosive detection devices, magnetometers, bomb blankets and bags, blast-resistant containers, ventilation systems, and personal protective equipment. Funding for a study and demonstration of anti-and counterterrorist technology is available through the Technical Support Working Group of the National Security Council.

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40

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# GLOSSARY

**antiterrorism--**Defensive measures used to reduce the vulnerability of individuals and property to terrorist acts.

**attack--**Sabotage or the use of bombs, chemical or biological agents, nuclear or radiological materials, or armed assault with firearms or other weapons by a terrorist or quasi-terrorist actor that cause or may cause substantial damage or injury to persons or property in any manner.

**command post (CP)--**The field location at which all primary incident command functions are performed. Also referred to as the field command post (FCP) or incident command post (ICP). There should be only one command post per incident, although various responding agencies may have separate locations for command and control of their own personnel.

**consequence management--**Measures to alleviate the damage, loss, hardship or suffering caused by emergencies. These include measures to restore essential government services, protect public health and safety, and provide emergency relief to affected entities. Consequence management response is under the primary jurisdiction of the affected state and local governments. Federal agencies support local efforts under the coordination of the Federal Emergency Management Agency (FEMA).

**counterterrorism--**Offensive measures to deter and respond to terrorism; traditionally counter-terrorism describes covert activities directed toward specific terrorist groups.

**crisis management--**Measures to resolve the hostile situation, investigate, and prepare a criminal case for prosecution under federal law. Crisis management response is under the primary jurisdiction of the federal government with the Federal Bureau of Investigation acting as the lead agency. Crisis management response involves measures to confirm the threat, investigate and locate the terrorists and their weapons, and capture the terrorists.

**emergency--**Any event, human-caused or natural, that requires responsive action to protect life or property.

**Emergency Support Functions (ESFs)--**These are functional area-of-response activities established to facilitate the delivery of federal assistance during the immediate response phase of a disaster. Their purpose is the protection of lives, property and public health, and the maintenance of public safety.

**ESF 1 Transportation--**This ESF coordinates federal transportation support to state and local government entities, voluntary organizations, and federal agencies requiring transportation to support a disaster or event requiring federal response.

**ESF 2 Communications--**Assures the provision of federal telecommunications support to federal, state, and local response efforts following a presidentially declared emergency, major disaster, extraordinary situation or other situation per the Federal Response Plan.

**ESF 3 Public Works and Engineering--**Public works and engineering support includes technical advice and evaluations, engineering services, construction management, and inspection as required.

**ESF 4 Firefighting--**The firefighting ESF is intended to detect and suppress wild-land, rural, and urban fires resulting from or occurring coincidentally with a catastrophic event requiring federal assistance.

**ESF 5 Information and Planning--**This ESF collects, processes, and disseminates information about a potential or actual disaster or emergency to facilitate federal response and assistance.

**ESF 6 Mass Care--**This involves the coordination of efforts to provide shelter, food, and emergency first-aid activities at a major event requiring federal assistance.

**ESF 7 Resource Support--**The provision of logistical/resource support in events requiring a federal response, including relief supplies, space, office equipment, contracting equipment, and personnel to support immediate response activities are handled by the ESF.

**ESF 8 Health and Medical Services--**This ESF provides coordinated assistance to supplement state and local resources in response to public health and medical care needs following a significant natural or human-caused disaster situation.

**ESF 9 Urban Search and Rescue--**Urban Search and Rescue (US&R or USAR) activities include locating, extricating, and providing for the immediate medical treatment of victims trapped in collapsed structures.

**ESF 10 Hazardous Materials--**The Hazmat ESF provides federal support to state and local governments in response to an actual or potential discharge and/or release of hazardous materials following a disaster or event requiring federal response.

**ESF 11 Food--**This ESF identifies, secures, and arranges for the transportation of food to affected areas.

**ESF 12 Energy--**This ESF facilitates restoration of the nation's energy systems following a disaster or significant event evoking federal assistance.

**Federal Response Plan (FRP)--**The interdepartmental planning mechanism, developed under the leadership of the Federal Emergency Management Agency (FEMA), by which the federal government prepares for and responds to the consequences of catastrophic disasters. Federal planning and response are coordinated on a functional basis-known as emergency support functions (ESFs)with designated lead and support agencies for each identified functional area.

**Incident- -**A specific emergency event that requires a response to correct the situation, restore order, or protect life or property.

**incident action plan--**The written or nonwritten course of action selected by an incident commander to resolve an

incident or disaster. The incident action plan is stated in terms of overall strategy and measurable objectives that guide all response and recovery personnel involved in incident response.

**incident base--**The location where primary logistics functions are coordinated and performed. The base may be colocated with the command post. There is only one base per incident, and the base is generally designated according to the name of the incident, e.g., "Green Base."

**incident commander (IC)--**The person responsible for the command and direction of all functions at the field response level.

**mitigation--**Strategic activities undertaken by the transit system or government to preferably prevent incidents from occurring or minimize the consequences of those that do occur. Examples include: CPTED, situational crime prevention, and random anti-terrorist measures (RAMs).

**problem identification--An** essential step in hazards analysis. Determining the type, nature, scope and potential consequences of one, or all, of the possible threats or hazards faced by a specific transit system.

**planning--**The process in which a transit system or government identifies the appropriate resources and methods

available to reduce the impact of crises, disasters, and acts of terrorism or extraordinary violence. Effective planning includes an assessment of actual capabilities as well as a determination of the best strategic application of resources and methods to best resolve the problem.

**quasi-terrorism--**Activities incidental to the commission of crimes of violence that are similar in form and method to terrorism, but lack an organized social, political, religious, or economic dimension.

**random anti-terrorist measures (RAMs)--**A structured mechanism for enhancing the security posture at vulnerable locations to prevent terrorist attack, essentially hardening the target through enhanced physical security. In a transit environment, RAMs could include a scheduled program including: 1) routine checks of unattended vehicles, 2) scrutiny of packages and vehicles, 3) monitoring critical facilities and key infrastructure (i.e., directed patrol checks of hatches, traction power substations, signal equipment, switches, yards and shops). The random element of a RAM program is ensured by rotating the areas/measures that are subjected to enhanced scrutiny on a daily or shift-by-shift basis.

# APPENDIX A
**Survey Questionnaire**
**Aggregate Survey Results**

**Transit Cooperative Research Program (TCRP)**
**Synthesis Topic SF-5**
**Emergency Procedures for Counter-Terrorism**
**Survey Questionnaire**

Your Name/Title_____ Transit Agency_____

Location (City, State)_____ Telephone Number_____ Date_____

> *This survey questronnaitre has been prepared to solicit information concerning the ways in which transit systems prepare for and may respond to acts of terrorism. As used in this questionnaire, terrorism is defined as **a violent act, or an act dangerous to human life or property, in violation of the criminal laws of the United States or of any State, committed to intimidate or coerce a government, the civilian population, or any segment thereof to further political or social objectives**. The results of this questionnaire are confidential -- responses will be presented only in the aggregate. Individual transit system responses will not be made public. The final results will be synthesized into a report available from the Transportation Research Board (TRB) and the American Public Transit Association (APTA).*

**Perception of the Terrorist Threat**

1. Do you consider the current threat of terrorism in the United States to be greater, less than, or the same as it was **five years** ago? ❏ Greater ❏ Less ❏ The same

2. Do you consider the threat of terrorism **directed against transit systems** in the United States to be greater, less than, or the same as it was **five years** ago? ❏ Greater ❏ Less ❏ The same

3. Which transit modes do you feel are at the greatest risk of being targeted? *(Please rank in order, I through 6, with I being most likely to be targeted and 6 being least likely.)*

   ___ Urban rail (subway and light rail)     ___ Ferries
   ___ Commuter rail     ___ Bus or rail terminals
   ___ Buses     ___ Bridges/tunnels

4. Which type of terrorist event/act of extreme violence do you feel is most likely to occur on a transit system in the United States during the next five years? *(Please rank in order, I through 7, with 1 being most likely to occur and 7 being least likely.)*

   ___ Detonation of an explosive device     ___ Employee sabotage of rail/bus
   ___ Detonation of a Chemical, Biological, or        equipment/infrastructure
       Nuclear (CBN) device     ___ Breech of essential computer systems
   ___ Hijacking of a motor bus, van, or train     ___ Mass shooting on system
   ___ Hostage/barricade situation

5. How well prepared is your transit system to respond to a terrorist incident or an act of extreme violence?

   ❏ Very well prepared ❏ Well prepared ❏ Somewhat prepared ❏ Not well prepared

**Transit System Experience with Terrorism and Acts of Extreme Violence**

6. Has your transit system ever experienced any of the following incidents?

   Yes  No
   ❏   ❏   Bomb threat
   ❏   ❏   Identification of explosive device on system
   ❏   ❏   Identification of chemical or biological device on system
   ❏   ❏   Identification of nuclear device or radiological contaminants on system
   ❏   ❏   Detonation of explosive, chemical, biological, or nuclear device on system
   ❏   ❏   Vehicle hijacking
   ❏   ❏   Hostage/barricade situation
   ❏   ❏   Employee sabotage
   ❏   ❏   Breech of essential computer/software systems
   ❏   ❏   Shooting incident with multiple victims
   ❏   ❏   Extortion attempt
   ❏   ❏   Hate crime

7. Which local law enforcement agency has primary responsibility for investigating reported acts of terrorism or extreme violence on your system (i.e., bomb threats, weapons offenses, hate crimes)?
   ❏ Transit police ❏ Municipal or county law enforcement ❏ State law enforcement
   ❏ Other _____

8. Has your transit system participated in a terrorist or terrorist-related investigation conducted by the above law enforcement agency in the past five years? ❏ Yes ❏ No

9. Are you aware of the existence of any of the following terrorist groups located in your state?

   Yes      No
   ❏   ❏   Right Wing (i.e., anti-federalist, racist, anti-Semitic, tax-resisting, etc.)
   ❏   ❏   Left Wing (i.e., revolutionary, Marxist-Leninist, etc.)
   ❏   ❏   International (i.e., foreign terrorist groups, or groups sponsored by foreign governments)
   ❏   ❏   Ethnic/Emigre (i.e., terrorist groups from ethnic or emigre communities within the U.S.)
   ❏   ❏   Issue Specific (i.e., environmental, animal rights, anti-abortion, etc.)

10. Have you identified any terrorist groups that operate in the communities served by your system?
    ❏ Yes ❏ No

**Planning for Terrorism and Acts of Extreme Violence**

11. Does your system have an Incident Response Plan for terrorism? ❏ Yes ❏ No

    If "yes." which transit department developed this plan?_____

12. If "no" to Question 11, does your system have an Emergency Plan (for response to accidents, etc.)?
    ❏ Yes ❏ No

    If "yes," which transit department developed this plan? _____

    If "yes," does your Emergency Plan address response to a terrorist incident? ❏ Yes ❏ No

46

13. Does your system have an interagency committee to discuss, develop, and review emergency plans and procedures? ❑ Yes ❑ No

    If "yes," does this committee also address issues of terrorism? ❑ Yes ❑ No

14. Does your Emergency Plan include any of the following agencies? (Check all that apply)

    ❑ Local police departments
    ❑ Local fire/EMS
    ❑ Local hospitals
    ❑ Local support/charity services
    ❑ Other local transportation providers
    ❑ State law enforcement
    ❑ State/local emergency management agencies
    ❑ Federal emergency management agencies

    ❑ Other _____

15. Has your Emergency Plan (or your Terrorism Incident Response Plan) been reviewed by any of the following organizations? (Check all that apply)

    ❑ Federal Bureau of Investigation (FBI)
    ❑ Bureau of Alcohol, Tobacco & Firearms (BATF)
    ❑ U.S. Department of Transportation (USDOT)
    ❑ Federal Transportation Administration (FTA)
    ❑ Federal Railroad Administration (FRA)
    ❑ Local law enforcement
    ❑ Federal emergency management agencies
    ❑ Local fire service
    ❑ Private consultant
    ❑ State Police
    ❑ State or local emergency management agencies
    ❑ State oversight agency
    ❑ Professional associations
    ❑ Other

16. Does your system have formal Memoranda of Understanding (MOUs) with any of the following organizations regarding emergency response and multi-agency coordination? (Check all that apply)

    ❑ Local Police
    ❑ State law enforcement
    ❑ Local fire departments
    ❑ Local EMS providers
    ❑ Local hospitals
    ❑ Other transit systems
    ❑ State and federal emergency management agencies
    ❑ Other

17. Do any of these MOUs address terrorism or extreme violence? ❑ Yes ❑ No

18. Do you utilize the Incident Command System (ICS) or a similar incident management structure for organizing response to emergencies, disasters, and rail accidents? ❑ Yes ❑ No

19. Do you have pre-existing plans for the following ? (Check all that apply)

    ❑ System evacuation ❑ System closure ❑ Personnel re-call/reactivation

3

20. Do you have pre-existing operational plans for the following 9 (Check all that apply)

    ❑ Bomb threat management
    ❑ Hostage/barricade situation response
    ❑ Control center defense
    ❑ Establishing an alternate dispatch center
    ❑ Bus bridge implementation (to replace disrupted service)
    ❑ Obtaining replacement equipment (procurement, lease, or borrowing)

21. The FBI is the lead federal law enforcement agency in the fight against terrorism. Has your transit system interacted with FBI personnel to discuss planning for the threat of terrorism on your system?

    ❑ Meetings ❑ Telephone conversations ❑ Correspondence/literature ❑ No contact

**Planning for Emerging Threats**

22. Chemical, biological, and nuclear (CBN) threats have been directed against transit systems mtemationally and may impact this country in the near-future. Has your system taken any steps to plan response activities for a CBN release? ❑ Yes ❑ No

    If "yes," did you address any of the following Issues? (Check all that apply)

    ❑ Command Post location at scene of CBN release
    ❑ Establishing penmeters/containment and zones of operation at scene
    ❑ Traffic control requirements
    ❑ Public information requirements
    ❑ Additional notifications
    ❑ Required protective gear for personnel
    ❑ Stand-off detection technology
    ❑ Antidote availability in your area
    ❑ Decontamment protocol for entering/ leaving zone of operation
    ❑ Use of fans/other equipment in train tunnels to "blow off' or "contain" release
    ❑ Other _____

23. Does your system have procedures in place for the detection of a CBN release? ❑ Yes ❑ No

    If "no," does your local fire department or another local agency have procedures for detection? ❑ Yes ❑ No

24. Please rate the likelihood of a terrorist attack utilizing CBN terrorism against a U.S. transit system in the next 10 years:

    ____Very Likely _____Likely _____Somewhat Likely _____Not Likely

25. Please rate the likelihood of such an attack against your system:

    _____Very Likely _____Likely _____SomewhatLikely _____Not Likely

4

**Threat Assessment, Categorization, and Analysis**

26. Do you have an ongoing threat assessment program to identify and categorize threats of terrorism/extreme violence against your system? ❑ Yes ❑ No

27. Do you collect and catalog previous threats against your system (i.e. bomb threats, letter threats, etc.) for future information (i.e., as a decision-making tool for analyzing current threats?) ❑ Yes ❑ No

28. Do you utilize decision-making tools (e.g., checklists, worksheets, command guidelines, etc.) for managing threats against your system? ❑ Yes ❑ No

29. Do you have a mechanism for designating increased levels of threat against your system (similar to the AVSEC threat management program used by airports)? ❑ Yes ❑ No

    If "yes," check all of the following that apply:

    ❑ Police have designated responsibilities during these periods (e.g., increased awareness, predesignated patrol checks, log entries, securing/limiting access)
    ❑ Operations personnel have designated responsibilities
    ❑ Heightened duties subject to management/command inspections

30. Are mechanisms to relay the capacity of railcars, buses and/or stations (i.e.. peak capacity, capacity per vehicle/station) routinely or readily available to transit police or others? ❑ Yes ❑ No

31. Do you have a mechanism to assess and categorize situation status, including status of stations, lines, personnel, and patrons that may be affected by a specific incident? ❑ Yes ❑ No

    If "yes," is this data readily available to decision-makers, operations personnel and transit (or other) police and emergency responders? ❑ Yes ❑ No

32. Does your system or transit police force maintain an on-going link with local, state or federal law enforcement agencies with the specific intent of maintaining awareness of current threats? ❑ Yes ❑ No

33. Check the frequency of information exchange regarding terrorism with each of the following agencies:

| | Weekly | Monthly | Semi-Annually | Annually | Never |
|---|---|---|---|---|---|
| Local police | _____ | _____ | _____ | _____ | _____ |
| EMS/hospitals | _____ | _____ | _____ | _____ | _____ |
| Other local agencies | _____ | _____ | _____ | _____ | _____ |
| State police | _____ | _____ | _____ | _____ | _____ |
| Other state agencies | _____ | _____ | _____ | _____ | _____ |
| Civil defense/emergency management agencies | _____ | _____ | _____ | _____ | _____ |
| Federal agencies | _____ | _____ | _____ | _____ | _____ |

34. Do you maintain regular links with other transit systems regarding threat posture? ❑ Yes ❑ No

5

35. Have you conducted site visits or collected after-action reports from other systems (in the U.S. or elsewhere) targeted by terrorist or quasi-terrorist actions? ❑ Yes ❑ No

36. Are you aware that the USDOT Office of Intelligence and Security maintains a security/ threat information and referral hotline? ❑ Yes ❑ No

    If "yes," has your system used it? ❑ Yes ❑ No

37. Has your system received threat warning circulars from the FTA or USDOT Office of Intelligence and Security? ❑ Yes ❑ No

    If "yes." were they disseminated to any of the following? (Check all that apply)

    ❑ Senior management          ❑ Local police
    ❑ Supervisory personnel      ❑ State police
    ❑ Control center personnel   ❑ All personnel
    ❑ Bus/train operators, conductors, etc.   ❑ Other _____
    ❑ Transit police/security

    If "yes," did your system do any of the following? (Check all that apply)

    ❑ Modify procedures
    ❑ Implement patron security measures (i.e., request patrons to report suspicious activity/packages)
    ❑ Joint threat briefing with local/state police
    ❑ Conduct employee awareness briefings

38. Has your system conducted a threat assessment of its key infrastructure (i.e., stations, power stations, right-of-ways, bridges, tunnels. yards & shops, control centers, vehicles)? ❑ Yes ❑ No

    If "yes," was this assessment conducted (Check all that apply):
    ❑ Specifically for terrorism   ❑ For a range of contingencies (e.g., earthquake, flood, hurricane)

    What year(s) was the assessment conducted, _____, and was it conducted
    ❑ In house   ❑ By an external agency or consultant?

39. Have you conducted a system-specific assessment of your system's ability to sustain operations in the face of terrorist assault? ❑ Yes ❑ No

40. Does your system require Crime Prevention through Environmental Design (CPTED) reviews of
    architectural and engineering drawings? ❑ Yes ❑ No
    For procurement of equipment/technology" ❑ Yes ❑ No
    Do these reviews address counter-terrorism design and technologies? ❑ Yes ❑ No

6

41. How useful have the following sources of information about terrorism been to your system? *(Please circle the most appropriate response: Never used = 1; not useful = 2; somewhat useful = 3; very useful = 4)*

| | | | | |
|---|---|---|---|---|
| FBI unclassified reports | 1 | 2 | 3 | 4 |
| FBI classified reports | 1 | 2 | 3 | 4 |
| Other federal agencies | 1 | 2 | 3 | 4 |
| State agencies | 1 | 2 | 3 | 4 |
| Local agencies | 1 | 2 | 3 | 4 |
| The media | 1 | 2 | 3 | 4 |
| Professional enforcement publications | 1 | 2 | 3 | 4 |
| Risk assessment services or publications | 1 | 2 | 3 | 4 |
| Books, journals, periodicals (non-law enforcement) | 1 | 2 | 3 | 4 |
| Radical publications, alternative literature | 1 | 2 | 3 | 4 |
| Informants | 1 | 2 | 3 | 4 |
| The Internet | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

**Drills/Training**

42. Have transit police/security personnel at your system received emergency management training?
❒ Yes ❒ No Have operations personnel received this training? ❒ Yes ❒ No

43. Does your system conduct function-specific training to reinforce awareness of the responsibilities and communication protocols to be used during response to an emergency? ❒ Yes ❒ No

44. Check all agencies for which your system has provided transit familiarization training:

❒ Police (general)  ❒ Emergency Management/Civil Defense personnel
❒ Police (SWAT)
❒ Fire service  ❒ FBI
❒ EMS/Paramedics/rescue  ❒ Other _____
❒ State law enforcement

45. Does your system participate in any programs developed by the FBI to improve terrorism preparedness or special training exercises/drills? ❒ Yes ❒ No

46. Does your system participate in any programs developed by local or state law enforcement agencies to Improve terrorism preparedness? ❒ Yes ❒ No

47. Has your system received funding/material support from other organizations to develop counter-terrorism programs and training? ❒ Yes ❒ No

If "yes," which organization(s) provided this support? _____

48. Do transit police/security personnel at your system participate as members in professional organizations involved in security or emergency management (ASIS, IACP, APTA, etc..) 9
❒ Yes ❒ No

49. Have transit police/security personnel at your system received counter-or anti-terrorism training?

50. Have the municipal or county police in your service area received counter- or anti-terronst training?

51. Has your system conducted a terrorism response drill?

If "yes," date of last such drill? _____ If "yes," what type of drill was it? (Check all that apply)

❒ Bomb threat/bomb search  ❒ Hostage/barricade situation
❒ Chemical/biological/nuclear incident  ❒ General emergency response

52. Has your system conducted a tabletop training session on terrorism?

If "yes," date of last such session? _____

53. Would representatives from your system be interested in attending a national or regional workshop on transportation terrorism? ❒ Yes ❒ No

**About Your Agency**

54. Which modes of transportation do you provide? (Circle all that apply)

Commuter Rail    Heavy Rail  Light Rail  Motor Bus  Trolley Bus Ferry

55. How many rail stations do you have? ___ Total    ___ Elevated    ___ Subway ___ At Grade

56. How many bus stops do you have? ___ Total    ___Sheltered    ___ On-Street

Who provides security for your system? (Please check all that apply.)

_____Sworn Transit Police _____Contract Local Police _____Non-Contract Local Police

_____Non-Sworn Security _____No Security    Other _____

**THANK YOU VERY MUCH FOR YOUR PARTICIPATION.**

**EMERGENCY PROCEDURES FOR COUNTER-TERRORISM
AGGREGATE SURVEY RESULTS**

**1** Do you consider the current threat of terrorism In the United States to be greater, less than, or the same as it was five years ago?

| | Number | % |
|---|---|---|
| *Greater* | 36 | 86% |
| *Less* | 0 | 0% |
| *Same* | 5 | 12% |
| *Total* | 42 | 98% |

*\*NOT ALL RESPONDENTS ANSWERED EVERY QUESTION*

**2** Do you consider the threat of terrorism directed against transit systems in the United States to be greater, less than, or the same as it was five years ago?

| | Number | % |
|---|---|---|
| *Greater* | 28 | 67% |
| *Less* | 0 | 0% |
| *Same* | 13 | 31% |
| *Total* | 42 | 98% |

**3** Which transit modes do you feel are at the greatest risk of being targeted? (Please rank In order, 1 through 6, with 1 being most likely to be targeted and 6 being least likely.)

| | average score |
|---|---|
| *Urban rail* | 2.21 |
| *Commuter rail* | 2.61 |
| *Buses* | 4.30 |
| *Ferries* | 5.56 |
| *Bus or rail terminals* | 3.01 |
| *ridges/tunnels* | 3.30 |

**4** Which type of terrorist event/act of extreme violence do you feel is most likely to occur on a transit system in the United States during the next five years? (Please rank In order, 1 through 7, with 1 being most likely to occur and 7 being least likely. )

| | average score |
|---|---|
| *Detonation of an explosive device* | 2.37 |
| *Detonation of a Chemical, Biological, or Nuclear (CBN) device* | 5.73 |
| *Hijacking of a motor bus, van, or train* | 3.90 |
| *Hostage/barncade situation* | 3.14 |
| *Employee sabotage of rail/bus equipment/infrastructure* | 4.06 |
| *Breech of essential computer systems* | 5.45 |
| *Mass shooting on system* | 3.30 |

**5** How well prepared is your transit system to respond to a terrorist incident or an act of extreme violence?

| | Number | % |
|---|---|---|
| *Very well prepared* | 1 | 2% |
| *Well prepared* | 17 | 40% |
| *Somewhat prepared* | 17 | 40% |
| *Not well prepared* | 7 | 17% |
| *Total* | 42 | 100% |

**6** Has your transit system ever experienced any of the following incidents?

| | Number | % |
|---|---|---|
| *Bomb threat* | 37 | 88% |
| *Identification of explosive device on system* | 11 | 26% |
| *Identification of chemical or biological device on system* | 2 | 5% |
| *Identification of nuclear device or radiological contaminants on system* | 0 | 0% |
| *Detonation of explosive, chemical, biological, or nuclear device on system* | 3 | 7% |
| *Vehicle hijacking* | 14 | 33% |
| *Hostage/barnacle situation* | 11 | 26% |
| *Employee sabotage* | 18 | 43% |
| *Breech of essential computer/software systems* | 3 | 7% |
| *Shooting incident with multiple victims* | 13 | 31% |
| *Extortion attempt* | 4 | 10% |
| *Hate crime* | 20 | 48% |
| *Total number of systems* | 42 | |

**7** Which local law enforcement agency has primary responsibility for investigating reported acts of terrorism or extreme violence on your system (i.e., bomb threats, weapons offenses, hate crimes)

| | Number | % |
|---|---|---|
| *Transit police* | 18 | 43% |
| *Municipal or county law enforcement* | 23 | 55% |
| *State law enforcement* | 1 | 2% |
| *Other* | 2 | 5% |
| *Total number of systems* | 42 | 100% |

**8** Has your transit system participated In a terrorist or terrorist-related investigation conducted by the above law enforcement agency In the past five years?

| | Number | % |
|---|---|---|
| *Yes* | 12 | 29% |
| *No* | 30 | 71% |
| *Total* | 42 | 100% |

50

**9** Are you aware of the existence of any of the following terrorist groups located
In your state?

| | Number | % |
|---|---|---|
| *Right Wing (i.e., anti-federalist, racist, anti-Semitic, tax-resisting, etc.)* | 30 | 71% |
| *Left Wing (i.e., revolutionary, Marxist-Leninist, etc.)* | 18 | 43% |
| *International (i.e., foreign terronst groups, or groups sponsored by foreign govts)* | 18 | 43% |
| *Ethnic/Emigre (i.e., terrorist groups from ethnic or emigre communities w, U.S.)* | 21 | 50% |
| *Issue Specific (i.e., environmental, animal nights, anti-abortion, etc.)* | 27 | 64% |
| *Total number of systems* | 42 | |

**10** Have you identified any terrorist groups that operate In the communities served
by your system?

| | Number | % |
|---|---|---|
| *Yes* | 14 | 33% |
| *No* | 28 | 67% |
| *Total* | 42 | 100% |

**11** Does your system have an Incident Response Plan for terrorism?

| | Number | % |
|---|---|---|
| *Yes* | 18 | 43% |
| *No* | 23 | 55% |
| *Total* | 42 | 98% |

If yes, who developed plan?

**12** If "no" to Question 11, does your system have an Emergency Plan (for response
to-accidents, etc.)?

| | Number | % |
|---|---|---|
| *Yes* | 19 | 79% |
| *No* | 4 | 17% |
| *Total* | 24 | 96% |

If yes, who developed plan?

If yes, does your Emergency Plan address response to a terrorist incident?

| | Number | % |
|---|---|---|
| *Yes* | 4 | 20% |
| *No* | 15 | 75% |
| *Total* | 20 | 95% |

**13** Does your system have an Interagency committee to discuss, develop, and
review emergency plans and procedures?

| | Number | % |
|---|---|---|
| *Yes* | 33 | 79% |
| *No* | 8 | 19% |
| *Total* | 42 | 98% |

If yes, does this committee also address Issues of terrorism?

| | Number | % |
|---|---|---|
| *Yes* | 24 | 69% |
| *No* | 10 | 29% |
| *Total (yes responses)* | 35 | 97% |

**14** Does your Emergency Plan include any of the following agencies? (Check all
that apply)

| | Number | % |
|---|---|---|
| *Local police departments* | 39 | 93% |
| *Local fire/EMS* | 36 | 86% |
| *Local hospitals* | 24 | 57% |
| *Local support/charity services* | 13 | 31% |
| *Other local transportation providers* | 18 | 43% |
| *State law enforcement* | 21 | 50% |
| *State/local emergency management agencies* | 25 | 60% |
| *Federal emergency management agencies* | 14 | 33% |
| *Other* | 0 | 0% |
| *Total number of systems* | 42 | |

**15** Has your Emergency Plan (or your Terrorism Incident Response Plan) been
reviewed by any of the following organizations? (Check all that apply)

| | Number | % |
|---|---|---|
| *Federal Bureau of Investigation (FBI)* | 5 | 12% |
| *Bureau of Alcohol, Tobacco & Firearms (BATF)* | 0 | 0% |
| *U.S. Department of Transportation* | 3 | 7% |
| *Federal Transportation Administration (FTA)* | 9 | 21% |
| *Federal Railroad Administration (FRA)* | 4 | 10% |
| *Local law enforcement* | 21 | 50% |
| *Federal emergency management agencies* | 3 | 7% |
| *Local fire service* | 19 | 45% |
| *Private consultant* | 3 | 7% |
| *State Police* | 5 | 12% |
| *State or local emergency management agencies* | 13 | 31% |
| *State oversight agency* | 7 | 17% |
| *Professional associations* | 1 | 2% |
| *Other* | 2 | 5% |
| *Total number of systems* | 42 | |

**16** Does your system have formal Memoranda of Understanding (MOUs) with any of the following organizations regarding emergency response and multi-agency coordination? (Check all that apply)

| | Number | % |
|---|---|---|
| *Local Police* | 25 | 61% |
| *State law enforcement* | 10 | 24% |
| *Local fire departments* | 20 | 49% |
| *Local EMS providers* | 16 | 39% |
| *Local hospitals* | 10 | 24% |
| *Other transit systems* | 7 | 17% |
| *State and federal emergency management agencies* | 7 | 17% |
| *Other* | 2 | 5% |
| *No MOU with any organization* | 10 | 24% |
| *Total number of systems responding to question* | 41 | |

**17** Do any of these MOU's address extreme violence?

| | Number | % |
|---|---|---|
| *Yes* | 10 | 24% |
| *No* | 20 | 49% |
| *N/A (no MOU's)* | 10 | 24% |
| *Total* | 41 | 98% |

**18** Do you utilize the Incident Command System (ICS) or a similar incident management structure for organizing response to emergencies, disasters, and rail accidents?

| | Number | % |
|---|---|---|
| *Yes* | 32 | 78% |
| No | 8 | 20% |
| *Total* | 41 | 98% |

**19** Do you have pre-existing plans for the following ? (Check all that apply)

| | Number | % |
|---|---|---|
| *System evacuation* | 31 | 74% |
| *System closure* | 26 | 62% |
| *Personnel re-call/reactivation* | 35 | 83% |
| *Total number of systems* | 42 | |

**20** Do you have pre-existing operational plans for the following ? (Check all that apply)

| | Number | % |
|---|---|---|
| *Bomb threat management* | 38 | 90% |
| *Hostage/barricade situation response* | 17 | 40% |
| *Control center defense* | 8 | 19% |
| *Establishing an alternate dispatch center* | 18 | 43% |
| *Bus bridge implementation (to replace disrupted service)* | 25 | 60% |
| *Obtaining replacement equipment (procurement, lease, or borrowing)* | 12 | 29% |
| *Total number of systems* | 42 | |

**21** The FBI is the lead federal law enforcement agency in the fight against terrorism. Has your transit system interacted with FBI personnel to discuss planning for the threat of terrorism on your system?

| | Number | % |
|---|---|---|
| *Meetings* | 16 | 38% |
| *Telephone conversations* | 10 | 24% |
| *Correspondence/literature* | 11 | 26% |
| *No contact* | 21 | 50% |
| *Total number of systems* | 42 | |

**22** Chemical, biological, and nuclear (CBN) threats have been directed against transit systems internationally and may impact this country in the near-future. Has your system taken any steps to plan response activities for a CBN release?

| | Number | % |
|---|---|---|
| *Yes* | 15 | 36% |
| *No* | 26 | 62% |
| *Total* | 42 | 98% |

If "yes," did you address any of the following issues? (Check all that apply)

| | Number | % |
|---|---|---|
| *Command Post location at scene of CBN release* | 12 | 80% |
| *Establishing perimeters/containment and zones of operation at scene* | 15 | 100% |
| *Traffic control requirements* | 11 | 73% |
| *Public information requirements* | 13 | 87% |
| *Additional notifications* | 11 | 73% |
| *Required protective gear for personnel* | 10 | 67% |
| *Stand-off detection technology* | 6 | 40% |
| *Antidote availability in your area* | 7 | 47% |
| *Decontainment protocol for entering/leaving zone of operation* | 9 | 60% |
| *Use of fans/other equipment in train tunnels to "blow off" or "contain" release* | 11 | 73% |
| *Other* | 4 | 27% |
| *Total number of systems* | 15 | |

**23** Does your system have procedures in place for the detection of a CBN release?

| | Number | % |
|---|---|---|
| *Yes* | 4 | 10% |
| *No* | 37 | 88% |
| *Total* | 42 | 98% |

If "no," does your local fire department or another local agency have procedures for detection?

| | Number | % |
|---|---|---|
| *Yes* | 28 | 76% |
| *No* | 2 | 5% |
| *Don't Know* | 7 | 19% |
| *Total (no responses)* | 37 | 100% |

**24** Please rate the likelihood of a terrorist attack utilizing CBN terrorism against a
U.S. transit system in the next 10 years:

| | Number | % |
|---|---|---|
| Very Likely | 2 | 5% |
| Likely | 14 | 34% |
| Somewhat Likely | 18 | 44% |
| Not Likely | 7 | 17% |
| Total | 41 | 100% |

**25** Please rate the likelihood of such an attack against your system

| | Number | % |
|---|---|---|
| Very Likely | 1 | 2% |
| Likely | 3 | 7% |
| Somewhat Likely | 15 | 37% |
| Not Likely | 22 | 54% |
| Total | 41 | 100% |

**26** Do you have an ongoing threat assessment program to identify and categorize
threats of terrorism/extreme violence against your system?

| | Number | % |
|---|---|---|
| Yes | 12 | 29% |
| No | 30 | 71% |
| Total | 42 | 100% |

**27** Do you collect and catalog previous threats against your system (i.e. bomb
threats, letter threats, etc.) for future information (i.e., as a decision-making tool
for analyzing current threats?)

| | Number | % |
|---|---|---|
| Yes | 25 | 60% |
| No | 17 | 40% |
| Total | 42 | 100% |

**28** Do you utilize decision-making tools (e.g., checklists, worksheets, command
guidelines, etc.) for managing threats against your system?

| | Number | % |
|---|---|---|
| Yes | 25 | 60% |
| No | 17 | 40% |
| Total | 42 | 100% |

**29** Do you have a mechanism for designating increased levels of threat against your
system (similar to the AVSEC threat management program used by airports)?

| | Number | % |
|---|---|---|
| Yes | 11 | 26% |
| No | 31 | 74% |
| Total | 42 | 100% |

If "yes," check all of the following that apply:

| | Number | % |
|---|---|---|
| Police have designated responsibilities during these periods | 10 | 91% |
| Operations personnel have designated responsibilities | 8 | 73% |
| Heightened duties subject to management/command inspections | 10 | 91% |
| Total (yes responses) | 11 | |

**30** Are mechanisms to relay the capacity of railcars, buses and/or stations (i.e.,
peak capacity, capacity per vehicle/station) routinely or readily available to transit
police or others?

| | Number | % |
|---|---|---|
| Yes | 33 | 79% |
| No | 9 | 21% |
| Total | 42 | 100% |

**31** Do you have a mechanism to assess and categorize situation status, including
status of stations, lines, personnel, and patrons that may be affected by a
specific incident?

| | Number | % |
|---|---|---|
| Yes | 31 | 74% |
| No | 11 | 26% |
| Total | 42 | 100% |

If "yes," is this data readily available to decision-makers, operations personnel
and transit (or other) police and emergency responders?

| | Number | % |
|---|---|---|
| Yes | 30 | 97% |
| No | 1 | 3% |
| Total (yes responses) | 31 | 100% |

**32** Does your system or transit police force maintain an on-going link with local,
state or federal law enforcement agencies with the specific intent of maintaining
awareness of current threats ?

| | Number | % |
|---|---|---|
| Yes | 30 | 71% |
| No | 12 | 29% |
| Total | 42 | 100% |

**33** Check the frequency of information exchange regarding terrorism with each of
the following agencies:

| | Weekly | Month |
|---|---|---|
| Local police | 10 | 8 |
| EMS/hospitals | 0 | 4 |
| Other local agencies | 3 | 7 |
| State police | 2 | 6 |
| Other state agencies | 3 | 4 |
| Civil defense/emergency management agencies | 1 | 6 |
| Federal agencies | 3 | 9 |
| Total number of systems | 42 | |

**34** Do you maintain regular links with other transit systems regarding threat
posture?

| | Number | % |
|---|---|---|
| Yes | 23 | 55% |
| No | 19 | 45% |
| Total | 42 | 100% |

**35** Have you conducted site visits or collected after-action reports from other systems (in the U.S. or elsewhere) targeted by terrorist or quasi-terrorist actions?

|  | Number | % |
|---|---|---|
| *Yes* | 15 | 36% |
| *No* | 27 | 64% |
| *Total* | 42 | 100% |

**36** Are you aware that the USDOT Office of Intelligence and Security maintains a security/ threat information and referral hotline?

|  | Number | % |
|---|---|---|
| *Yes* | 25 | 60% |
| *No* | 17 | 40% |
| *Total* | 42 | 100% |

If "yes," has your system used it?

|  | Number | % |
|---|---|---|
| Yes | 9 | 36% |
| *No* | 16 | 64% |
| *Total* | 25 | 100% |

**37** Has your system received threat warning circulars from the FTA or USDOT Office of Intelligence and Security?

|  | Number | % |
|---|---|---|
| *Yes* | 39 | 93% |
| *No* | 3 | 7% |
| *Total* | 42 | 100% |

If "yes," were they disseminated to any of the following? (Check all that apply)

|  | Number | % |
|---|---|---|
| *Senior management* | 29 | 74% |
| *Supervisory personnel* | 23 | 59% |
| *Control center personnel* | 17 | 44% |
| *Bus/train operators, conductors, etc.* | 5 | 13% |
| *Transit police/security* | 32 | 82% |
| *Local police* | 15 | 38% |
| *State police* | 3 | 8%. |
| *All personnel* | 1 | 3% |
| *Other* | 2 | 5% |
| *Total (yes responses)* | 39 | |

If "yes," did your system do any of the following? (Check all that apply)

|  | Number | % |
|---|---|---|
| *Modify procedures* | 8 | 21% |
| *Implement patron security measures (i.e., request patrons to report suspicious activity/packages)* | 9 | 23% |
| *Joint threat briefing with local/state police* | 8 | 21% |
| *Conduct employee awareness briefings* | 21 | 54% |
| *Total (yes responses)* | 39 | |

**38** Has your system conducted a threat assessment of its key infrastructure (i.e., stations, power stations, right-of-ways, bridges, tunnels, yards & shops, control centers, vehicles)?

|  | Number | % |
|---|---|---|
| *Yes* | 25 | 60% |
| *No* | 17 | 40% |
| *Total* | 42 | 100% |

If "yes," was this assessment conducted (Check all that apply):

|  | Number | % |
|---|---|---|
| *Specifically for terrorism* | 4 | 16% |
| *For a range of contingencies (e.g., earthquake, flood, hurricane)* | 24 | 96% |
| *Total (yes responses)* | 25 | |

**What year(s) was the assessment conducted**

| | Average Year |
|---|---|
| | 1995.5 |

Was it conducted:

|  | Number | % |
|---|---|---|
| *In house* | 20 | 80% |
| *By an external agency or consultant?* | 10 | 40% |
| *Total(yes responses)* | 25 | |

**39** Have you conducted a system-specific assessment of your system's ability to sustain operations in the face of terrorist assault?

|  | Number | % |
|---|---|---|
| *Yes* | 8 | 19% |
| *No* | 34 | 81% |
| *Total* | 42 | 100% |

**40**

|  | Number | % |
|---|---|---|
| *Does your system require Crime Prevention through Environmental Design (CPTED) reviews of architectural and engineering drawings?* | 15 | 36% |
| *For procurement of equipment/technology?* | 15 | 36% |
| *Do these reviews address counter-terrorism design and technologies?* | 10 | 24% |
| *No CPTED reviews* | 26 | 62% |
| *Total number of systems* | 42 | |

54

**41** How useful have the following sources of information about terrorism been to your system? (Please circle the most appropriate response: Never used = 1; not useful = 2; somewhat useful = 3; very useful = 4)

| | **average score** |
|---|---|
| FBI unclassified reports | 1.93 |
| FBI classified reports | 1.81 |
| Other federal agencies | 2.62 |
| State agencies | 1.88 |
| Local agencies | 2.14 |
| The media | 2.24 |
| Professional enforcement publications | 2.29 |
| Risk assessment services or publications | 1.83 |
| Books, journals, periodicals (non-law enforcement) | 2.05 |
| Radical publications, alternative literature | 1.62 |
| Informants | 1.50 |
| The Internet | 1.74 |
| Other _____ | |

**42** Have transit police/security personnel at your system received emergency management training?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 29 | 69% |
| *No* | 12 | 29% |
| *Total* | 42 | 98% |

Have operations personnel received this training?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 29 | 69% |
| *No* | 12 | 29% |
| *Total* | 42 | 98% |

**43** Does your system conduct function-specific training to reinforce awareness of the responsibilities and communication protocols to be used during response to an emergency?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 22 | 52% |
| *No* | 19 | 45% |
| *Total* | 42 | 98% |

**44** Check all agencies for which your system has provided transit familiarization training:

| | **Number** | **%** |
|---|---|---|
| *Police (general)* | 33 | 79% |
| *Police (SWAT)* | 29 | 69% |
| *Fire service* | 32 | 76% |
| *EMS/Paramedics/rescue* | 28 | 67% |
| *State law enforcement* | 8 | 19% |
| *Emergency Management/Civil Defense personnel* | 12 | 29% |
| *FBI* | 12 | 29% |
| *Other* | 7 | 17% |
| *Total number of systems* | 42 | |

**45** Does your system participate in any programs developed by the FBI to Improve terrorism preparedness or special training exercises/drills?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 11 | 26% |
| *No* | 30 | 71% |
| *Total* | 42 | 98% |

**46** Does your system participate in any programs developed by local or state law enforcement agencies to improve terrorism preparedness?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 18 | 43% |
| *No* | 23 | 55% |
| *Total* | 42 | 98% |

**47** Has your system received funding/material support from other organizations to develop counter-terrorism programs and training?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 2 | 5% |
| *No* | 39 | 93% |
| *Total* | 42 | 98% |

If "yes," which organization(s) provided this support?

**48** Do transit police/security personnel at your system participate as members in professional organizations involved in security or emergency management (ASIS, IACP, APTA, etc..) ?

| | **Number** | **%** |
|---|---|---|
| *Yes* | 33 | 79% |
| *No* | 8 | 19% |
| *Total* | 42 | 98% |

**49** Have transit police/security personnel at your system received counter- or anti-terrorism training?

| | Number | % |
|---|---|---|
| Yes | 15 | 36% |
| No | 26 | 62% |
| Total | 42 | 98% |

**50** Have the municipal or county police in your service area received counter- or anti terrorist training?

| | Number | % |
|---|---|---|
| Yes | 31 | 79% |
| No | 7 | 18% |
| Total | 39 | 97% |

**51** Has your system conducted a terrorism response drill?

| | Number | % |
|---|---|---|
| Yes | 20 | 48% |
| No | 21 | 50% |
| Total | 42 | 98% |

| | average year |
|---|---|
| If "yes," date of last such drill? | 1995.25 |

If "yes," what type of drill was it? (Check all that apply)

| | Number | % |
|---|---|---|
| Bomb threat/bomb search | 10 | 50% |
| Chemical/biological/nuclear incident | 2 | 10% |
| Hostage/barricade situation | 14 | 70% |
| General emergency response | 14 | 70% |
| Total (yes responses) | 20 | |

**52** Has your system conducted a tabletop training session on terrorism?

| | Number | % |
|---|---|---|
| Yes | 10 | 24% |
| No | 31 | 74% |
| Total | 42 | 98% |

| | average year |
|---|---|
| If "yes," date of last such session? | 1995.90 |

**53** Would representatives from your system be interested in attending a national or regional workshop on transportation terrorism?

| | Number | % |
|---|---|---|
| Yes | 37 | 88% |
| No | 4 | 10% |
| Total | 42 | 98% |

**54** Which modes of transportation do you provide? (Circle all that apply)

| | Number | % |
|---|---|---|
| Commuter Rail | 13 | 31% |
| Heavy Rail | 13 | 31% |
| Light Rail | 19 | 45% |
| Motor Bus | 34 | 81% |
| Trolley Bus | 8 | 19% |
| Ferry | 4 | 10% |
| Total number of systems | 42 | |

**55** How many rail stations do you have?

| | Total |
|---|---|
| Elevated | 158 |
| Subway | 156 |
| At Grade | 386 |
| Total | 1919 |

**56** How many bus stops do you have?

| | Total |
|---|---|
| Sheltered | 12,287 |
| On Street | 91,030 |
| Total | ##### |

**58** Who provides security for your system? (Please check all that apply.)

| | Number | % |
|---|---|---|
| Sworn Transit Police Only | 13 | 31% |
| Non-Sworn Security Only | 2 | 5% |
| Contract Local Police Only | 4 | 10% |
| No Security | 0 | 0% |
| Non-Contract Local Police Only | 4 | 10% |
| Non-sworn Security, Contract Local Police, and Non-Contract Local Police | 1 | 2% |
| Sworn Transit Police, Non-sworn Security, and Non-Contract Local Police | 5 | 12% |
| Sworn Transit Police and Non-sworn Security | 2 | 5% |
| Non-sworn Security and Contract Local Police | 1 | 2% |
| Sworn Transit Police, Contract Local Police, and Non-Contract Local Police | 2 | 5% |
| Contract Local Police and Non-Contract Local Police | 1 | 2% |
| Sworn Transit Police and Non-Contract Local Police | 6 | 14% |
| Sworn Transit Poll., Non-sworn Sec., Contract Loc. Pot., and Non-Contract Loc. Pol | 1 | 2% |
| Total number of systems | 42 | 100% |

# APPENDIX B

## PARTICIPATING TRANSIT AGENCIES

*The following transit agencies contributed to this project:*

Alameda-Contra Costa Transit District, Oakland, California

AMTRAK Passenger Railroad Service, Philadelphia, Pennsylvania

Bi-State Development Agency, St. Louis, Missouri

Boise Urban Stages, Boise, Idaho

British Colombia Transit, Vancouver, British Columbia

Capital Metropolitan Transportation Authority, Austin, Texas

Chicago Transit Authority, Chicago, Illinois

Dallas Area Rapid Transit, Dallas, Texas

Detroit Department of Transportation, Detroit, Michigan

Greater Cleveland Regional Transit Authority, West Cleveland, Ohio

Jacksonville Transportation Authority, Jacksonville, Florida

Los Angeles County Metropolitan Transportation Authority, Los Angeles, California

Long Island Rail Road, Jamaica, New York

Maryland Mass Transit Administration, Baltimore, Maryland

Massachusetts Port Authority, Boston, Massachusetts

Massachusetts Bay Transit Authority, Boston, Massachusetts

Metro-Dade Transit, Miami, Florida

Metrolink Commuter Railroad, Los Angeles, California

Metro-North Commuter Railroad, New York, New York

Metropolitan Atlanta Rapid Transit Authority, Atlanta, Georgia

Metropolitan Transit Authority of Harris County, Houston, Texas

Metropolitan Transit Development Board, San Diego, California

Metropolitan Council Transit Operations, Minneapolis, Minnesota

Metropolitan Transportation Authority Long Island Bus, Garden City, New York

Milwaukee County Transit System, Milwaukee, Wisconsin

New Jersey Transit, Maplewood, New Jersey

New Orleans Regional Transit Authority, New Orleans, Louisiana

Niagara Frontier Transit Authority, Buffalo, New York

Northern Indiana Commuter Transportation District, Chesterton, Indiana

Port Authority of Allegheny County Transit, Pittsburgh, Pennsylvania

Phoenix Transit System, Phoenix, Arizona

Port Authority Transit Corporation, Camden, New Jersey

Regional Transit, Sacramento, California

San Francisco Municipal Railway, San Francisco, California

San Francisco Bay Area Rapid Transit, Oakland, California

Santa Clara Valley Transportation Authority, San Jose, California

Southeastern Pennsylvania Transportation Authority, Philadelphia, Pennsylvania

Tidewater Transportation District Commission, Norfolk, Virginia

Toronto Transit Commission, Toronto, Ontario

Utah Transit Authority, Salt Lake City, Utah

VIA Metropolitan Transit, San Antonio, Texas

Washington Metropolitan Area Transit Authority, Washington, D.C.

# APPENDIX C

## SPECIAL ISSUES

A number of special issues related to transit terrorism require attention. These issues include

- The management of bomb threats and suspicious packages,
- Vehicle hijackings and hostage/ barricade situations,
- Employee sabotage, and
- Threats to information systems and virtual terrorism.

An overview of these issues is provided in this appendix.

## BOMB THREATS AND SUSPICIOUS PACKAGES

Responding to and managing bomb threats and suspicious packages is an important element of transit security. Eighty-eight percent of the systems surveyed had experienced bomb threats, with another 26 percent reporting finding an actual bomb on their system. Of all the future terrorist threats or events, respondents rated the detonation of an explosive on a transit system the most likely (with an average rating of 2.37 on a scale of 1-7, with 1 being most likely and 7 least likely). Fully 90 percent of the respondents had plans to manage bomb threats, with 60 percent reporting a mechanism to collect and catalog prior threats as a way to analyze current threats.

Clearly, the management of bomb threats and potential bombings is vital. Actual bombings remind us of the importance of well developed bomb threat management practices. Perhaps the first transit bombing occurred on the London Underground on October 30, 1881, when 62 persons were killed when a bomb exploded between Charing Cross and Westminster. The London Underground continues to face the threat of terrorist bombings and, in conjunction with the British Transport Police, have honed their bomb threat and suspicious package management practices. Due to their level of experience, it is useful to briefly note their approach.

Every unattended package on the Underground is treated as a potential explosive device. When packages are found unattended, a transit supervisor makes an initial assessment. If a package is deemed suspect, the British Transport Police are notified. Suspicious packages on trains trigger an evacuation of the train and proximate station, while packages on platforms result in evacuation of the station with trains not allowed to enter the station area. Packages located in stations, but away from the platforms, result in evacuation of the station, with trains allowed to traverse through the station without stopping.

While suspicious packages are visible, bomb threats (usually by telephone) require a higher level of evaluation. In Britain, the bulk of the bombings are carried out by the Provisional Irish Republican Army (IRA) in conjunction with the troubles in Ulster. Traditionally, IRA threats are accompanied by a "code" signifying a credible threat. However, a determination is required to decide on the credibility of the threat

nevertheless. On the Underground and other railways in Britain, the British Transport Police make this assessment. Credible threats are deemed Category 1 threats, while noncredible threats are considered Category 2. In Category 1 threats the police recommend evacuation. In Category 2 threats the recommended course of action is a search. The actual course of action selected remains the responsibility of the transit system.

To effectively address bomb related issues, the British Transport Police specially train a cadre of constables to serve as police search advisors (POLSAs). These constables coordinate search activities, train search teams, and promote search awareness among all members of the force. The Force Search Advisor is a senior officer charged with overseeing POLSA activities and advising railway officials regarding bomb related matters. As the result of these efforts, including specially equipped bomb cars which respond to the scene of suspect packages, determinations of the nature of packages left on the transit system can be made rapidly, minimizing disruption to the system.

In an effort to better manage these incidents in the United States, several systems are considering training or have already initiated the training of select officers in the use of portable bomb screening devices. These efforts may provide a measure of protection by enabling quick determination of the nature of a suspect package without having to close a major terminal, which in itself may jeopardize passengers due to crowding and other subsequent conditions. One caveat remains, however. Officers using such equipment will require continual training and will need to remain cognizant of the limitations of the screening equipment.

Other efforts considered include blast-containing blankets and blast-deflecting rings. Use of such devices needs to be carefully considered in conjunction with local bomb squads, however. For example, most bomb squads are wary of containment blankets since they may in fact trigger a detonation, particularly if the blanket is moved. Use of blast containment rings may protect some passengers, but inadvertently redirect a blast into key architectural structures, potentially causing a structural collapse and thus endangering other passengers. Like any tool or tactic, its use requires careful consideration to ensure its appropriateness to each individual situation. Most bomb squad personnel recommend removing people from the threat, rather than removing the threat from people.

Other measures under consideration at transit systems include blast-containing or deflecting trash cans, or the removal of trash cans altogether. A measure that should be considered in new systems or during system renovations is a blast analysis. Specialists in blast dynamics can use computer simulations to project the potential blast distribution for a variety of explosive threats and thresholds. Utilizing this data, system architects can design structures to minimize the impact of a bombing. This practice has been employed at embassies and air terminals and may be valuable in the transit setting.

Perhaps the best measure to cope with bomb threats and suspicious packages is a well-developed threat management program. Such a program should be based on procedures to be followed in all cases involving bomb threats or the discovery of suspected explosive devices. Objectives should include the safe management and resolution of the incident, the maintenance of an effective perimeter, and an awareness of other targets and secondary impacts on the system.

Generally, the transit police will supervise the overall response and investigation, coordinate and participate in search operations, secure and control the incident area and provide crowd control. A workable bomb threat management program requires the designation of a "decision authority," which is the person or position (i.e., a rail controller, supervisor, etc.) who decides on the course of action to be taken. This involves the decision to conduct a search, determine evacuation parameters, or restrict or suspend service. In most cases the decision authority is a transit controller; however, in some systems the police make that determination. Another variation is a joint transit-police decision authority.

In either case, the decision authority needs to conduct a threat/risk analysis to determine if the threat is credible and/or technically possible. This analysis should also consider the potential impact on the transit system and its patrons. Once an assessment is made, a course of action must be set and objectives defined. Potential courses of action include: immediate *full* evacuation (suspend service), immediate local evacuation (restrict service), a personnel work area search, joint police/transit search, and search by specialized bomb squad personnel (including bomb dogs).

When a threat is received, it must be immediately evaluated to determine its validity. Questions vital to this process include

- When is the bomb going to explode?
- Where is the bomb now?
- What does it look like?
- What kind of bomb is it?
- What will cause it to explode?

Decision-making tools can help ease this determination. Such tools might include a *Bomb Threat Card* for recording the threat and a *Threat Management Worksheet* to aid in assessing its credibility and potential impact. Examples of these forms are included in *Appendix D: Emergency Response Tools. The Risk Assessment of Transit System Components* developed by the GAO, or a system-specific derivative defining the criticality and vulnerability of system locations or elements is a useful adjunct to the threat management worksheet. Records or a database of previous threats are also useful tools in evaluating the seriousness of current threats-in-progress.

When a decision to conduct a search is made, the search must be conducted in a coordinated fashion and clear lines of command must be delineated. It is important to note that bomb searches are *visual searches.* All persons involved in the search must be familiar with the area to be examined. As a result, employees of the system generally search their own work area since they know what belongs and what does not.

One way of ensuring a clear command structure is the designation of a search branch leader. It is also advisable to designate a safety officer to ensure awareness of safety issues and safe search practices. Searches should be conducted by teams with a minimum of two members.

Before initiating a search, it is good practice to conduct an incident safety briefing to advise all response personnel of safety issues. Key issues to be covered during the safety briefing include an advisory that

- No radios or cellular phones should be used in the search area;
- Safe search practices must be followed;
- Nothing should be touched or moved during the search;
- The area should be isolated and access denied to all persons if a possible bomb or suspicious package is found.

During searches of rail systems, searchers should be reminded to remain aware of train operations and secondary impacts on the system. In all cases, searchers should also be reminded of the possibility of multiple devices. When conducting a search, searchers should visually scrutinize the area from ground to waist, from waist to eye level, and then from eye level to the ceiling. They should then reverse roles with their partner(s). Areas searched and then subsequently cleared should be isolated and then labeled. If a suspicious device is found, all personnel should quickly and safely withdraw to a staging area outside of the inner perimeter and deny access to all persons. All searchers should be accounted for at this time. Once a potential device is found, specialized bomb squad or explosive ordinance disposal personnel should assume responsibility for any continued search, device control, and management.

Training Bulletins from the Chicago Police Department that detail bomb and suspicious package handling practices used in the transit environment are included as Figure C-1.

## VEHICLE HIJACKINGS AND HOSTAGE/BARRICADE SITUATIONS

Vehicle hijackings and hostage/barricade situations are precarious, high-risk situations. While not routine events in the transit setting, they do occur. In fact, 26 percent of the systems responding to the survey had experienced hostage/ barricade situations and 33 percent had experienced a vehicle hijacking. When asked to rate the likelihood of these events occurring in the future, respondents rated hostage/barricade situations as the second most likely (with a mean score of 3.14, with 1 being most likely and 7 being least likely). Hijacking of a transit vehicle (bus or railcar) was rated fourth (with a mean score of 3.90). Forty percent of the respondents have hostage/barricade plans for their system.

The transit setting complicates these already volatile situations. Rail systems--elevated, subway, or at grade--present unique challenges to personnel responding to these threats. Buses present the potential for a moving crime scene that threatens motorists and is potentially difficult to locate (some systems are adopting global positioning systems, or GPS-technology, to facilitate locating vehicles). In all cases, transit

59

# Bomb Threat Incidents:
# The Threat
TRAINING BULLETIN
VOLUME 37, NUMBER 3
5 August 1996

Part I: General Order 91-01

## The Bomb and Arson Section

Regardless of an officer's prior training, experience, or assignment, only explosive technicians from the Bomb and Arson Section have the authority to touch, move, or otherwise handle any device suspected to contain explosive material.

The Bomb and Arson Section, located at 1121 S. State Street and 3540 S. Normal, is staffed around the clock by police detectives and explosive technicians, who are available for all requests for assistance. The section must be notified in all cases concerning explosions, bombings, bona fide bomb threats, and whenever a suspected explosive is discovered or recovered.

The Section also processes scenes of explosions or bombings and also takes into custody any suspected explosives, explosive material, pyrotechnic devices, explosive munitions, and any other material suspected of containing explosive components. The Section is also responsible for the follow-up investigation of any bomb or arson threat.

## Police Response

We, as police officers, are exposed to explosives and bombs more often than at any time in the recent past. We should all be aware of the inherent dangers of explosives and bombs and the damage and injury that these devices can cause.
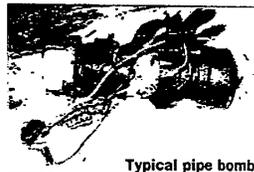
**Typical pipe bomb**

Police officers tend to believe they are better educated and more familiar with unusual circumstances than the average citizen, but when an incident involves an actual or suspected explosive device, **no one** except trained explosives technicians *should touch or handle the object.*

Tampering with suspected explosive devices by an untrained individual not only endangers his or her life, but also the lives of anyone who may be nearby.

Remember, if you are not an assigned technician trained to handle explosives, do not touch any suspected devices.

## Safety First

Safety is the primary concern in any suspected bomb investiga-

tion. The first rule is to avoid personal injury by removing all personnel (including police officers) to some **safe distance** (500 feet or greater) from the suspected device. Once out of the immediate perimeter of exposure, steps may be taken to evaluate the situation.

Whenever in doubt, contact your immediate supervisor or the Bomb and Arson Section for instructions on how to proceed.

While you may be involved in the bomb search in the beginning of the investigation, your involvement should never include anything more than locating and possibly identifying a suspected explosive device. You are not to touch or otherwise disturb any suspected bomb — **contact Bomb and Arson Immediately!**

## Bomb Threats

Bomb threats are delivered three ways: a suspect device found, a threat communicated, or both. Usually, a verbal warning is telephoned to the target or to some agency that will forward the threat to the desired target.

Two logical reasons for delivering bomb threats are:

• The caller has definite knowledge or believes that an explosive or incendiary device has been or will be placed and wants to minimize personal injury or property damage. The caller may be the person who placed the device or merely one who has information, or

• The caller wants to create an atmosphere of anxiety or panic which results in the disruption of normal business activity.

### Telephone Threats

Because most threats are received via telephone, accurate analysis of a telephone threat may yield many clues. The listener can usually determine the sex and may determine the ethnic background of the caller from their voice. Background noise can be a clue to the caller's location. All information the caller supplies must be considered to be true until your investigation proves otherwise. Bombers who make telephone warnings often provide accurate information as to the type and location of their bomb.

## Response to Bomb Threats

Response to a bomb threat scene should be calm, quick, and quiet. *Your first priority* is to arrive at the scene, but be aware of suspicious persons or vehicles as you approach. Note any description and request that the OEC assign another unit to investigate the suspect person or vehicle.

Once at the scene, the assigned officer must interview the complainant and/or notify the building management of the threat. Many organizations have established procedures for handling bomb threats. Some even provide secretaries and other personnel with a preprinted form to record bomb threat information. The Bomb and Arson Section can supply forms to organizations in order to record bomb threat information.

### Written Threats

Written threats are less common than telephone threats. When encountering a written threat, save and preserve all material included in the threat.

### Real or Hoax?

Although there is no way to discriminate between hoax and legitimate warnings, in most cases, threats of actual devices tend to be more detailed and specific than hoaxes.

Determining if the threat is real or not will be based on many factors that can change with each incident. A thorough preliminary interview, as well as a joint evaluation with the organization's agent, should answer the following questions:

• Is the threat real or a hoax?

• Should the building or area be evacuated?

• Should a search for a device be conducted?

In all bomb threat incidents, **safety** is the primary concern during any stage of an investigation. Distance from a suspected explosive device serves as the first and best method of defense and safety for anyone involved in suspected bomb related incidents.

FIGURE C-1  Training bulletins from the Chicago Police Department.

60

## Evacuation and Location Control

Police officers have the authority and responsibility to evacuate people from any potentially dangerous area. Evacuations may be "partial," that is, people may be moved from the area of immediate danger without the need to empty a building. If a device is found, an evacuation should be ordered and the Bomb and Arson Section notified.

Prior to the initiation of the evacuation, a plan should be formulated based on the facts available to insure that departure from the building will be efficient, orderly, and as risk-free as possible. The plan should include evacuation routes, occupant notification, general procedures, and relocation areas.

If an evacuation must be ordered, panic is an important factor to consider. It is one of the most contagious of all human emotions. Panic is a sudden, excessive, unreasoning, and infectious terror. We are all aware of incidents of panic that have caused

unnecessary death and injury. Once a state of panic has been reached, the potential for personal injury and property damage is dramatically increased.

Persons in the danger area should be evacuated first, followed by persons from above the area, and finally those below the danger area.

Evacuees will usually inquire as to the reason for the sudden evacuation of the building. Explaining that the building has received a bomb threat or a suspect bomb or device can lead to panic and unreasonable behavior. The appropriate response should be decided upon during the planning of the evacuation and disseminated to everyone conducting the evacuation. Some less panic producing excuses are gas leaks, power failures, or simply a fire department exercise.

Persons conducting the evacuation must leave all windows and

doors open when leaving each room or area. This precaution not only allows the blast wave to escape in the event of a detonation thereby minimizing damage, but allows searchers easy access to all parts of the building.

When the danger area has been evacuated, unauthorized persons must not be allowed to enter the area. The only persons authorized to enter the area will be Bomb and Arson personnel. All other persons, as well as fellow police officers, must be kept out for their own personal safety. The evacuation plan should also include an assembly point where evacuees can be accounted for, wait safely, and be made comfortable.

The last step in the evacuation process is the shutting off of all gas and other fuel lines at the building's main valves. All electrical equipment should be turned off with the exception of sufficient lighting for the searchers.

## Discovery of Suspicious Devices

It is imperative that everyone involved in the search, including police officers, understands that their mission is only to search for and report any suspicious object and not to move, jar, or touch anything that may be attached to the object. The removal and disarming of the device or bomb must be left to the explosive technicians. When a suspicious device is located there are

certain steps which must be taken:

- Move people away from the device. Do not move the device.

- Evacuate all persons from the danger area. Do not allow anyone in the danger area.

- Identify and cordon off the danger area. The area may vary depending on the size of the device but 500 feet from the

device is sufficient. Remember to cordon off areas above and below the device!

- Advise the Bomb and Arson Section of the exact location and supply an accurate description of the device.

- Arrange to have either building security or an officer meet the Bomb and Arson technician at the entrance to the site.

## Basic Organizational Emergency Procedures

### Bomb Incident Plan

1. Designate a chain of command.

2. Establish a command center.

3. Decide what primary and alternate communications will be used.

4. Establish clearly how and by whom a bomb threat will be evaluated.

5. Decide what procedures will be followed when a bomb threat is received or device discovered.

6. Determine to what extent the available bomb squad will assist and at what point the squad will be requested.

7. Provide an evacuation plan with enough flexibility to avoid a suspected danger area.

8. Designate search teams.

9. Designate areas to be searched.

10. Establish techniques to be utilized during the search.

11. Establish a procedure to report and track progress of the search and a method to lead qualified bomb technicians to a suspicious package.

12. Have a contingency plan available if a bomb should go off.

13. Establish a simple-to-follow procedure for the person receiving the bomb threat.

14. Review your physical security plan in conjunction with the development of your bomb incident plan.

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**Recapping Search Techniques**

- Familiarize yourself with your surroundings or be in the company of someone who is familiar with the surroundings and can help point out things which might be out of the ordinary.

- In addition to unusual or "out of place" objects, be keenly aware of unusual smells (e.g., gas) or unusual sounds (e.g., timer-ticks) which might be overlooked or go unnoticed because of the anxiety of the moment — to be thorough is to be safe.

### Command Center

1. Designate a primary location and an alternate location.

2. Assign personnel and designate decision making authority.

3. Establish a method for tracking search teams.

4. Maintain a list of likely target areas.

5. Maintain a blueprint of floor diagrams in the center.

6. Establish primary and secondary methods of communication. (Caution— The use of two-way radios during a search can cause premature detonation of an electronic blasting cap or a radio-controlled device.)

7. Formulate a plan for establishing a command center, if a threat is received after normal work hours.

8. Maintain a roster of all necessary telephone numbers.

This bulletin was developed by Explosive Technician Tom Boyd, the Instructional Design and Quality Control Unit of the Education and Training Division, and the Research and Development Division.

Any questions, contact the Bomb and Arson Section at Pax 0398 or on the Bell at 7-6273.

General Order 91-01 provides Department guidelines concerning bomb and arson events.

July 1996

61

# Bomb Threat Incidents:
# The Search
TRAINING BULLETIN
VOLUME 37, NUMBER 4
12 August 1996

Part II: General Order 91–01

## Search and Evacuation Procedures

The Chicago Police Department will not order the evacuation of a building or company or facility because of a bomb threat. This is the management's responsibility. The reason that a majority of bomb threats are made is to obtain total evacuation causing disruption of business, lost production, unnecessary expenses, and employee fears.

The building or facility management should have a preexisting plan for conducting a search. This plan should include:

1. Personnel assigned.

2. When to initiate the plan.

3. A coordinated search.

4. Communications during the search.

5. Decision when to evacuate.

6. When to terminate the search.

When the decision is made to evacuate a building to search for a device, it should be conducted as soon as possible. All those employees not involved in the search should take with them their personal belongings when leaving the building. Buildings and facilities are best searched by persons who are familiar with the location. Maintenance

personnel, security personnel or even certain designated employees who work in the building are best suited for assisting searches.

The search should be planned and conducted in an orderly manner. The areas to be searched should be arranged by priority based on accessibility to the bomber and potential as a target. Usually the exterior of a building will be examined first, followed by a close examination of interior public areas and then individual rooms. Discovery of a device demands immediate evacuation, securing the perimeter, and notifying the Bomb and Arson Section.

Prior to any search activity, all personnel involved in the search should be strongly advised to **not touch or move any suspicious items, packages, or containers.** Personnel conducting the search should be aware of what to look for. Anything that does not belong or is out of the ordinary should be suspect. A bomb can be in any kind of container. If anything unusual or suspicious is found, its location and description should be noted and reported to a supervisor.

## Search Types

• **Exterior search.** A thorough search of the exterior area is extremely important since these areas are most accessible to the bomber, especially at night when the building is closed. The type of location (residential, commercial, industrial) will dictate the areas to be examined. The exterior area should include sewers, flower beds, trees, window boxes, alleys, telephone booths, parked vehicles, gutters, shrubs, lawn ornaments, gangways, trash cans, drain pipes, porches, ledges, and areas around signs.

• **Public area search.** The next area to be examined should be areas of the building which are normally open to the public such as rest rooms, lobbies, stairways, and reception rooms. These areas are frequent targets and should be checked very carefully. Searchers should check these areas throughout the building, moving systematically upward, floor by floor. Each room or area searched should be marked or accounted for in a predetermined manner to prevent duplication of effort and loss of time.

• **Detailed room search.** The final step of a bomb search is the detailed room search. *It is*

*imperative to have a person such as a janitor or maintenance person who is familiar with the surroundings assist with the detailed room search.*

Some points to remember when conducting this detailed search:

• Never use a radio within 50 feet of a suspected device.

• Never use an elevator until it has been run through one complete cycle.

• Never activate any switches or buttons whose function is not known to you.

The search should begin in the basement or subbasement. The utility room where electrical, gas, or water connections start or terminate is a prime target for bombers and must be given special attention. The search should proceed room by room, upward through the building.

Elevator shafts and equipment are especially unpleasant areas to search but these areas are accessible and must be included in the search. The base of an elevator shaft can have three feet of grease, dirt, trash, or water which will require a search.

Remember, elevators should always be run through a complete cycle before entering the cab or shaft because explosives are sometimes set to be detonated by the movement of the elevator or the counterweight which lowers as the elevator rises. Also be aware that elevator shafts contain many small openings and access ports that may contain a device.

## Room Searches: Step by Step

The detailed room search is best carried out in a series of distinct steps.

**1. Audio check.** The audio check is accomplished by simply listening closely to background noises in the room to determine if any unusual or unfamiliar sounds are evident. Explosive devices are often armed or set to explode using a simple mechanical alarm clock or kitchen timer. These devices give off an audible noise that is easily recognized.

**2. Dividing the room.** The room method should be divided among the searchers based on the number of items to be searched rather than the size of the room. This type of division will lead to a more efficient operation and better division of labor. The room should be further divided into levels based on height. The first level is usually from the floor to about waist high. The second level is usually from waist to about head high, and the third from head to ceiling. Each of these areas should be searched separately, with all searchers working on the same level at one time.

**3. First-level search.** Each searcher should start searching their way around the room,

checking all items resting on the floor near the wall. Next they should check items in the center of the room up to the predetermined height.

Searchers should check under rugs and carpets, always folding back rather than rolling the rug, since a *pressure sensitive device* may be activated by placing or releasing pressure on the carpet. The first level search should also include items which may be mounted on or in walls, such as air conditioners, baseboard heaters, and built-in cupboards. This search usually consumes the greatest amount of time. The use of electronic or medical stethoscopes can be very useful if available to check walls, furniture, and floors for concealed items.

**4. Second-level search.** This second level search, from waist to head height, will include pictures on the walls, built-in bookcases, and tall furniture.

**5. Third-level search.** The third level search will examine the remainder of the room from head to ceiling. Ventilation and heating ducts and hanging light fixtures should all be checked. If there is a false ceiling in the room, a fourth level search may be called for.

62

# Preliminary Interview

The beat officer will usually conduct the preliminary investigation of a bomb threat. Each reported incident must be treated as bona fide and the officer must exercise extreme caution until the investigation proves the complaint to be unfounded.

Unpredictable variables will be present at each incident which will require officers and supervisors to make decisions in the interest of public and private safety.

The preliminary interview of the complainant or building manager should be as concise as possible so that the search of the premise can be initiated without unnecessary delay.

## Questions

While interviewing the complainant, ask these questions:

- Is this a life threatening situation? Are people present where the bomb reportedly is located? For instance, a bus terminal may be empty or a bank or building may be empty because of a holiday, weekend, or some other reason.

- What *damage* could result if an explosion occurs? This may not always be easily evaluated. The bomb could be placed in an unoccupied area but there may be buildings

with a lot of glass frontage which would dramatically increase fragmentation effect.

- What *possible consequences* would result from the disruption of services because of the threat or explosion? A bomb in the CTA subway may not cause many injuries or damage but the service disruption could be enormous.

- What *danger* is posed to myself or my partner either as the immediate result of an action or as a consequence of our actions? Will your radio transmission detonate a device? Do you have to enter an elevator in response to this call? A bomb may be detonated by a person watching you. Be aware of your surroundings and take no chances in a suspected bomb situation.

The complainant may not know the answers to all these questions, but a complete, well executed interview can provide vital information which will be helpful in determining the best course of action.

Police officers should evaluate the situation and discuss with the company or business management what steps, if any, should be taken in relation to the threat.

Any decision to evacuate a building based solely on a bomb threat is made by building management, not the Chicago Police Department. If there is a question, make certain to consult a supervisor.

> **Remember**
>
> When interviewing the complainant, try to obtain the following information in the interview:
>
> 1. Name, address, and phone number of complainant.
> 2. Stated location of bomb or device.
> 3. Stated time of detonation.
> 4. Stated appearance of device.
> 5. Stated type of explosive material.
> 6. Purpose of placing the bomb.
> 7. Previous history of bomb threats or incidents at the local.
>
> Safety is our primary concern and distance from the suspected device is the best defense.

# Case Studies

All police officers should be aware of the **Unabomber**, now reportedly in custody, who has been active for *almost 18 years.* The bomber has been responsible for several deaths and injuries as the result of bombs either being left at a location or being mailed to targeted individuals, businesses, or institutions. In other incidents,

- A man was killed and his wife injured when he opened a tool box containing a pipe bomb. The bomb was placed near his car in a parking lot and the intended target was a neighbor of the victims. Technicians found a *second bomb* concealed in a *portable radio* on the premise of the intended victim.

- In 1993, a device detonated within a bomber's vehicle while he was transporting explosive devices. The "victim" was a member of a motorcycle gang hired for the purpose of extortion in a

**Consider. . .**

- On average, there are over 1,000 bomb threats made yearly in Chicago. Additionally, 90 percent of all explosives are placed in public places.

- Almost everyone is aware of the terrorist's use of explosives, but motorcycle gangs, drug dealers, serial bombers, right and left wing extremists, irate relatives, and an assortment of other criminals have all found the use of explosives a very effective form of threat and/or harm.

- Most telephone threats last, on average, eight seconds.

- Those talking to the offender should always attempt to ascertain where the device is, what it looks like, and what time the device will detonate.

- Remember, avoid using your radio in the immediate vicinity of a suspected device because of the risk of detonation!

struggle for control of criminal enterprises.

- In late December of 1995, person(s) unknown left a live hand grenade on a newspaper vending box on Devon Avenue.

- The World Trade Center bombing was a prelude to a series of other bombings aimed at several organizations in and around the New York City area.

- The Oklahoma City bombing of a federal building was accomplished with a large, crude, but effective device. In each of these instances, individuals with complaints against the "system" found a lethal method for venting.

All of these very recent incidents should make police officers realize that bomb threats are very real and should not be treated lightly or without caution.

63

# Bomb Threat Incidents:

## Technical Information and Reporting

Part III: General Order 91-01 **TRAINING BULLETIN** VOLUME 37, NUMBER 5
19 August 1996

## Field Reporting Procedures

During a bomb threat investigation, it is important that beat officers take written notes of all information that is obtained. Do not rely on memory, as the tense conditions of a building search and/or evacuation can cause you to forget or overlook important facts. The report must be as accurate and thorough as possible. Be sure to include names, addresses, and phone numbers of all persons who provide information or assistance.

In cases of phone threats, try to build a description of the caller. In addition to the sex and ethnic background of the offender, it is often possible to estimate the age. Individual voice characteristics as well as speech impediments should be noted.

Reports should include the names, star numbers, and beat numbers of all police personnel who assist in the investigation. Also note any personnel present from other agencies or departments. In the narrative portion of the report, describe any actions taken, and the results of the search.

When a department member responds to the location of a reported bomb threat and *no fire or explosion* has occurred and nothing has been found, the making of the threat constitutes

a criminal offense, whether or not the threat was carried out. In these instances, a General Offense Case Report will be prepared following offense classification procedures established in the Incident Reporting Guide.

When a department member responds to a location where a bomb or device is found and is safely removed by explosive technicians or an explosion or fire does occur, a General Offense Case report will be prepared following procedures established in the Incident Reporting Guide. If there is evidence that another crime in addition to arson has been committed, *two case reports* will be prepared, one for the arson and one for the other crime. Arson is an exception to the UCR "Hierarchy Rule" for Part I Offenses.

## Field Notification

All bomb threats and bomb related incidents require immediate notification to OEC and *a follow-up phone* notification to the Bomb and Arson desk at Pax 0398 or Bell at 7-6273. This notification should be noted in your case report.

## News Media

It is of paramount importance that all inquiries by the news media be directed to one appointed spokesperson by the building management or to the Police Department's Director of News Affairs. All other persons should be instructed not to discuss the situation with outsiders or the news media.

The purpose of this provision is to furnish the news media with accurate information and see that additional bomb threat calls are not precipitated by irresponsible statements from uninformed sources.

### Found Bombs

Not all explosive devices look like cartoon depictions of bombs. Some are plastic beverage containers filled with suspicious liquids; some are different colored cardboard cylinders sealed at the ends; and some are as simple as crushed aluminum foil. The more typical pipe bombs come in various sizes, as well as metal or plastic. Use caution with any un-usual looking or suspicious object.

Occasionally, a homemade or a military explosive device is found in a location which indicates that it has been *discarded* rather than maliciously placed. The same measure of caution in any other situation should be taken. In these cases, a Lost and Found Case report will be prepared.

*Education and Training Division • 1*

# Nuclear Devices

## Nuclear Device Threats

Since the early 1970s, there has been grave national concern that a group of terrorists might acquire a capability to produce a credible nuclear device, thereby creating a serious threat to public safety. In the United States, safeguard measures to preclude the theft of the nuclear material required to make such a device have been greatly improved and are continuing to be expanded upon regularly.

However, with the breakup of the Eastern Block countries and other recent global events, the potential *danger that terrorists could acquire materials from sources beyond the control of the US Government requires planning and preparedness for such possibilities.*

The purpose of this portion of the bulletin is to provide information for the familiarization of officers who may be required to handle bomb threat incidents wherein the offender claims to have special nuclear and/or radioactive materials in their possession and intends to use the materials in an unlawful manner.

This information is unclassified material available from the FBI Bomb Data Program.

## Technical Information and Reporting

It took the United States four years using its top scientists and major laboratory and industrial resources to make the first atomic bomb (1945). Much of the basic scientific information from that effort is available to the general public today. The *Los Alamos Primer*, a guide to nuclear fission, is a good place to start and is available for under thirty dollars.

While information abounds, the potential terrorist bomber may not know how to put all this information together into an effective *design. Additionally, the dangers of handling high explosives adds to the dangers of working with a near critical mass of fissionable material.*

Countering nuclear extortion that may occur will require teamwork by federal, state, and local agencies. The FBI maintains federal jurisdictional responsibility (Atomic Energy Act, the Hobbs Act, and other pertinent federal statutes). The Energy Research and Development Administration (ERDA) can supply technical expertise and US military units (EOD) can undertake explosive ordinance disposal work.

If a nuclear extortion threat is made or there is any reason to suspect that either nuclear explosives or radioactive material is involved, **the FBI must be notified immediately** in addition to the Bomb and Arson Section.

ERDA personnel are ready to assist in assessing and responding to threats involving the use of nuclear or radioactive material. Search personnel with sophisticated detection equipment known as the Nuclear Emergency Search Team (NEST) are prepared to respond when incidents involving the following matters are reported and evaluated as credible: lost or stolen radioactive material, including nuclear weapons, improvised nuclear devices, or improvised radioactive dispersal devices. Detection equipment in various forms is maintained in a ready status and is available to respond to a threat anywhere in the country within two hours.

### Nuclear Threat Notifications

1. Immediately notify the local FBI or FBI Headquarters if a threat message or other communication is received identifying "atomic," "nuclear," or "radioactive" material, or a nuclear weapon as part of the threat.

2. Immediately notify the local FBI or FBI Headquarters upon receipt of information that persons or groups claiming to possess nuclear materials and/or capable of constructing a nuclear device are actively operating in your area.

*Education and Training Division • 2*

This bulletin was developed by Explosive Technician Tom Boyd, the Instructional Design and Quality Control Unit of the Education and Training Division, and the Research and Development Division.

Any questions, contact the Bomb and Arson Section at Pax 0398 or on the Bell at 7-6273.

General Order 91-01 provides Department guidelines concerning bomb and arson events.

July 1996

64

vehicles are difficult to see into from the outside, thus complicating approach by special operations personnel. While terrorist-inspired hostage takings on transit systems are rare, the potential remains. More common, however, is the escalation of a routinely occurring crime into a hostage/barricade scenario. An armed robbery in progress, or a person fleeing a crime scene via transit who encounters patrol officers-these are the types of triggering events often encountered.

Regardless of causation, the most dangerous time during a hostage crisis (excluding rescue attempts) is the first 15 to 45 minutes. To maximize effective response to these incidents, it is essential for first responders to immediately establish command, control, and communications. While the management of crisis negotiations and tactical intervention will generally be conducted by specially trained personnel, the initial responders must size-up the situation and coordinate response. Incoming police units need to be advised of the direction of fire (or potential fire) and safe access routes. A perimeter must be secured, and a command post established. The situation must be contained to isolate the event and avoid contagion or the spreading of the incident.

Response to these incidents involves three dimensions: situation analysis, policy issues, and tactical decisions. Effective intervention will require the integration of the incident command structure, field elements, and policymakers. Finally, management of transit hijacking, hostage/barricade response requires planning and training for a range of incidents (both dynamic and static, of both short and extended duration). In order to cope with potential tactical response situations in the transit environment, a few transit police agencies have developed an in-house special operations capability. The majority, however, rely on local police tactical personnel for this capability. Accordingly, 69 percent of the respondents have provided transit familiarization training to police special operations teams (SWAT). A number of systems also sponsor or participate in regular hijacking, hostage/barricade response drills.

## EMPLOYEE SABOTAGE

Employee sabotage is another special issue of concern to many transit agencies. Forty-three percent of the agencies surveyed had experienced employee sabotage. Regarding the future threat of employee sabotage, the agencies rated this fifth in order of likelihood (with a mean score of 4.06). Employee sabotage can occur as the result of a disgruntled employee--and as such may be related to the issue of workplace violence--or during periods of labor strife. Labor related sabotage may occur during strikes; accordingly, response to the issues requires close coordination with the system's labor relations personnel and local police units specializing in labor issues. Close coordination and liaison with union officials (shop stewards, strike coordinators, etc.) can also minimize the threat of labor related sabotage. During periods of labor strife, frequent patrols, checks and liaison with labor organizers are warranted.

## THREATS TO INFORMATION SYSTEMS AND VIRTUAL TERRORISM

Modern society increasingly relies on information systems and technology. In order to achieve greater efficiency, transit

systems are beginning to integrate sophisticated computers, software, and communications into their operations. The explosive growth of personal computers and the Internet demonstrates this reliance. As a result, transportation systems of all types are linking their internal systems with the National Information Infrastructure, forming the foundation of a Transportation Information Infrastructure.

However, as information processing occupies a greater portion of our technological base, new threats will arise. In fact, the new range of threats associated with the information infrastructure is already emerging. Initially, these threats were centered around "hackers" or persons who gained entry to computer systems without permission. As our modem society becomes increasingly dependent upon information technology, information warfare (IW) and strategic information warfare are becoming distinct possibilities. In fact, seven percent of the respondents have already experienced a breech of essential computer or software systems.

Because transportation assets have been targeted in both conventional warfare and by terrorists, the threat of cyber-terrorism or IW directed against transit systems joins the conventional range of threats. Recently, a Critical Infrastructure Protection Commission has been formed within the United States Department of Justice to assess the vulnerability of key infrastructure, including transportation components, to electronic and physical attack. Protection against such threats is now known as information systems security (ISS).

Despite growing awareness of the vulnerability of information infrastructure, this synthesis shows that transit systems are not generally aware of this potential threat. Respondents rated the threat of a breech of essential computer or software systems as sixth in order of future likelihood (with a mean score of 5.43). This confirms the suspicions voiced at a recent seminar, *Emerging Issues in Transportation Information Infrastructure Security* held at the Volpe Center on May 21, 1996. The seminar proceedings note that "In some cases, there may be an 'awareness gap,' that is, the organization may not be paying sufficient attention to ISS issues because there is a lack of understanding of the existing vulnerabilities and the extent of damages that could result from a successful penetration"[1].

### Threats and Vulnerabilities

Participants at the Volpe seminar noted that the number and extent of transportation systems relying on extensive automated technologies, information systems, and wireless or wireline communications systems is continually growing. This growth is found in all modes of transportation: aviation, rail, marine, highways and transit. Examples include automated signals, geographic information systems, electronic data exchange, and the Internet.

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[1]See *Emerging Issues in Transportation Information Infrastructure Security,* Summary of Proceedings, May 21, 1996, John A. Volpe National Transportaiton Systems Center, Cambridge, Massachusetts. URL found at *http://www.volpe.dot.gov/series 1.htm.*

The Volpe proceedings note that "Compromise or sabotage of operational systems can disrupt the integrity of transportation activities, leading to significant economic losses. More significant, however, is the real danger to the safety of the passengers or operators of these services." Rather than constituting the more imaginative elements of a high-tech cyber-thriller, such acts have already occurred. Consider, for example, the 1985 exploits of 'Chukaku-Hu.' In a notable attack on 34 separate nodes of the Japanese National Railway, the group destroyed electronic signaling devices, stranding 18 million commuters[2].

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[2]See "Rail-Directed Terrorism," In Henry I. DeGeneste and John P. Sullivan, *Policing Transportation Facilities,* Charles C. Thomas, Springfield, Illinois, 1994 and John Burgess, "High-tech attacks Worry Japanese," *Washington Post,* December 25, 1985.

Such attacks offer terrorists the ability to remotely strike out at a system, in essence carrying out a 'virtual' attack. Such virtual terrorism can disable essential computer systems, shut down signals and automatic train controls or can be used as a "force multiplier" to heighten the impact of a conventional attack. An example of an attack using a virtual force multiplier would be a bombing followed by remote disabling of train controls, traction power, or ventilation fans. The potential consequences speak for themselves.

Countermeasures to virtual terrorism include the designation of an information systems security program, hazard analyses of critical automated safety systems, access controls and password protection, firewalls within software programs, and data encryption. Finally, additional study of this emerging transit security threat is warranted.

# APPENDIX D

**EMERGENCY RESPONSE TOOLS**

**Number 1: Transit Critical Incident Guide**

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**TRANSIT TERRORISM: INCIDENT OBJECTIVES**

*Incident objectives at all transit terrorist incidents include:*

**General Concerns**

❐ Secure perimeter

❐ Control and identify threat (including cbn agent release)

❐ Rescue, decon, triage, treat and transport impacted persons

❐ Move crowds to safe zones

❐ Stabilize incident

❐ Protect rescuers

❐ Avoid secondary contamination

❐ Secure evidence and crime scene

❐ Protect against secondary attack

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**Transit-Specific Concerns**

❐ Provide alternative mode of transport

❐ Assess and mitigate secondary impact on system

❐ Rapid restoration of service

❐ Restore passenger confidence

**Number 2: Critical Incident Management Checklist**

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**New York City Transit Police**

**CRITICAL INCIDENT MANAGEMENT**
**Memo Book Insert**

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**CRITICAL TASKS**

**Assess:**

Nature of Incident:

Exact location Extent of casualties and carnage
Most limiting factors (What must be done to bring it under control)
Whether there are sufficient resources on the scene
Assistance required
Probable effect of incident on other areas

**COMMUNICATE RESULTS OF ASSESSMENT TO:**

Communications Unit
Relieving Supervisor

**PROVIDE DIRECTION TO RESPONDING UNITS:**

From street to staging area

**ESTABLISH PERIMETERS**

Inner perimeter (To prevent further injury at location of problem)
Outer perimeter (To retain control of area used by responding
units for Cmd. Posts and staging areas)

**PROVIDE RESCUE AND FIRST AID**

**IDENTIFY AND CONTROL ACCESS ROUTES**

From scene to local hospital(s)
From local commands to scene
At the scene (vehicle parking)

**INCIDENT PRIORITIES (POLICE OBJECTIVES)**

Protect life and provide safety
Prevent further injury or damage
Protect property
Restore order

**Number 3: Internal Emergency Coordination and Communication Guide**

## INTERNAL EMERGENCY COMMUNICATION CONSIDERATIONS

The following activities will support agency efforts to assess the effectiveness of internal emergency coordination and communication.

- Identify employee activities which increase system capability to deter acts of terrorism and extreme violence, including the reporting of suspicious activity, maintaining strict access and inventory control, the reporting of surveillance attempts or thefts of system uniforms or equipment, the identification of suspicious packages, station or vehicle evacuation, and (voluntary) participation in facility searches for bombs

- Identify employee activities which increase system capability to respond to acts of terrorism/extreme violence, including the definition of functions and responsibilities during emergency situations

- Conduct meetings with representatives from different transit departments to obtain their input on improved communications for terrorism prevention and emergency response

- Review existing organizational charts and communication pathways to identify inefficiencies and correct them

- Review existing reporting mechanisms for suspicious activity, including dispatch notification, driver reports, maintenance forms, and unusual incident reports, and modify all forms/reporting methods as necessary

- Develop guidelines for writing-up forms and reports to ensure consistent language, clear and chronological narrative, and sufficient information to support the identification of causes and the development of appropriate resolutions

- If necessary, improve system tracking and processing of report forms, to ensure that information is readily accessible for analysis

- Prepare bulletins or memorandum for all transit employees explaining activities they can perform to improve the security of the system and notification procedures for suspicious activity

- Ensure that rule books, procedures, and plans accurately reflect employee activities for response to a critical incident, and that all employees receive training on these activities

- Encourage management to attend training programs to reinforce the importance of employee terrorism prevention and emergency response activities

**Number 4: Transit Threat Decision Guide**

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**THREAT MANAGEMENT WORKSHEET**

*Considerations for determining a course of action in bomb threats or suspicious
package situations*

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❐   **REVIEW THREAT INFORMATION**

- e.g., bomb threat card

❐   **CONDUCT RISK EVALUATION**

- assess criticality and vulnerability

- time until threatened act?

- does device/act threaten densely traveled area?

- does device/act threaten critical resources?

- could it be a hoax or diversion?

- is it feasible or technically possible?

- is this threat similar to past threats?

❐   **DETERMINE POTENTIAL IMPACT**

- on the system

- on passengers and employees

❐   **SELECT COURSE OF ACTION**

- develop incident action plan (i.e., search, evacuation, service options)

- select service options: normal service, restricted service, suspend service

- implement ICS organization

- make notifications

**Number 5: Transit Threat Management Guide**

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**BOMB THREAT CARD**

*Questions to ask during the threat…*

1.  What kind of bomb is it?           [ ] time          [  ] anti-handling
2.  Where is it right now?
3.  When is it going to explode?
4.  What does it look like?
5.  Did you place the bomb?
6.  Why?
7.  What is your name?
8.  What is your address/phone number?

*Exact Wording of Threat* (write them verbatim_____

_____

*Threat-maker Details*

Sex of Caller_____ Race_____ Age_____ Length of Call_____

Number at which threat is received_____ Time_____ Date_____

*Describe Caller's Voice*

| | | | | | |
|---|---|---|---|---|---|
| [ ] Calm | [ ] Angry | [ ] Excited | [ ] Slow | [ ] Rapid | [ ] Soft |
| [ ] Loud | [ ] Laughter | [ ] Crying | [ ] Normal | [ ] Distinct | [ ] Slurred |
| [ ] Nasal | [ ] Stutter | [ ] Lisp | [ ] Rasp | [ ] Deep | [ ] Ragged |
| [ ] Clearing Throat | [ ] Deep Breathing | [ ] Cracked Voice | | | |
| [ ] Disguised | [ ] Accent | [ ] Familiar | | | |

If the voice was familiar who did it sound like?_____

*Background Sounds*

| | | | | |
|---|---|---|---|---|
| [ ] Street | [ ] Crockery | [ ] Office | [ ]Machinery | [ ] Voices |
| [ ] PA System | [ ] House | [ ] Motor | [ ] Music | [ ] Animal |
| [ ] Clear | [ ] Factory | [ ] Static | [ ] Local | [ ] Long Distance |
| [ ] Booth | [ ] Train | [ ] Maritime/Marine | [ ] Other (explain) | |

*Threat Language*

| | | | |
|---|---|---|---|
| [ ]Well Spoken (Educated) | [ ] Foul | [ ] Irrational | [ ] Incoherent |
| [ ] Taped | [ ] Read by threat-maker | [ ] Read by other (specify) | |

*Remarks*_____

Reporting Persons Name _____ Phone Number _____ Date/Time _____

*Notify the person designated at your system (i.e., the decision authority: central control, transit police, etc.) immediately after receiving a bomb threat or threat of extraordinary violence directed against the system. Follow their instructions. Complete the following form and give it to the investigating police officer.*

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**Number 6: Chemical Biological Terrorism Guide**

## CHEMICAL/BIOLOGICAL TERRORISM

### INDICATORS OF POSSIBLE CHEMICAL AGENT (CW) USAGE:

*Onset: Minutes to hours*

### UNUSUAL DEAD OR DYING ANIMALS

- lack of insects

### UNEXPLAINED CASUALTIES

- multiple victims
- serious illnesses
- nausea, disorientation, difficulty breathing, convulsions
- definite casualty patterns

### UNUSUAL LIQUID, SPRAY OR VAPOR

- droplets, oily film
- unexplained color
- low-lying clouds/fog unrelated to weather

### SUSPICIOUS DEVICES/PACKAGES

- unusal metal debris
- abandoned spray devices
- unexplained munitions

### INDICATORS OF POSSIBLE BIOLOGICAL AGENT (BW) USAGE:

*Onset: Hours to days*

### UNUSUAL DEAD OR DYING ANIMALS

- sick or dying animals, people or fish

### UNUSUAL CASUALTIES

- unusual illness for region/area
- definite pattern inconsistent with natural disease

### UNUSUAL LIQUID, SPRAY OR VAPOR

- spraying and suspicious devices or packages

### UNUSUAL SWARMS OF INSECTS

**Number 7: Transit First Responders Guide**

## HAZARDOUS MATERIALS (HAZMAT) INCIDENTS

*Procedures for initial response by first transit police or transit operations personnel on-scene*

### *SAFETY...*

### ISOLATE THE SCENE AND DENY ENTRY

- establish safe zones of operation

### MAKE NOTIFICATIONS

- ensure notification of appropriate response and regulatory agencies

### *PROTECT LIFE, THE ENVIRONMENT AND PROPERTY...*

### SIZE-UP (ASSESS) THE INCIDENT

### IDENTIFY THE PRODUCT AND ITS CHARACTERISTICS

- safely from a safe distance
- uphill, upwind, upstream

### REQUEST APPROPRIATE ASSISTANCE

- advise safe approach route
- designate a safe staging area

### RESCUE VICTIMS, PROVIDE EMERGENCY CARE AND DECON EXPOSED PERSONS

- if safely achievable, utilize proper protective gear

### IMPLEMENT PROTECTIVE MEASURES

- evacuation or in-place protection

# APPENDIX E

## TECHNOLOGY RESOURCES

The National Institute of Justice and the Department of Defense are collaborating on developing and sharing dual-use technology for law enforcement agencies and military operations other than war. Many of the emerging technologies will prove well suited to the transit law enforcement environment. To strengthen the collection and dissemination of technology information, NIJ is developing the capabilities of the National Law Enforcement Technology Center and establishing regional law enforcement technology centers. The purpose of these centers is to provide criminal justice professionals with information on available technology, guidelines and standards for these technologies, and technical assistance in implementing them.

These centers will be linked through a Technology Information Network (TIN) to provide federal, state, and local agencies with objective, reliable, and timely information on technologies and equipment, such as who are the producers and users; where high-cost, seldom-used equipment can be borrowed for temporary or emergency situations; what the current equipment standards are; tests and evaluations; and what safety, health, or procedure bulletins have been issued. The TIN will also link the centers with the current Regional Information Sharing Service, creating an overall law enforcement technology exchange network. NIJ is also in the process of establishing an Office of Law Enforcement Technology Commercialization to help bring technology to the marketplace for criminal justice procurement. Some of the possible research areas of interest to transit security professionals are:

- Drug Testing--Transit agencies need to be certain that drivers, conductors, and other personnel are drug-free. Research is being conducted for developing or adapting analytic techniques for extracting drug-related material from hair and urine and other body fluids.
- Less-Than-Lethal--Technology-Reduction in the incidence of injuries and death to officers and the public during confrontations is an important consideration to public transit, which depends on a public perception of safety.
- Bulk Detection--The research effort focuses on using the most advanced equipment to scan luggage and packages with energy particles to detect explosive devices in their bulk form. Bulk detection projects use X-ray, neutron diffraction, and gamma ray technologies.
- Weapons Detection--Walk-through and hand-held equipment is tested using mechanical test devices to evaluate the performance of state-of-the-art, prototype, and production model weapons detection systems.
- Vapor Detection--Vapor detection technologies are used to collect the vapor emitted from explosives or chemical weapons. Research projects investigate the physical processes related to vapor detection, such as transport, contamination, and vapor generation.
- Chemistry and Target-Hardening Materials--Projects address fundamental issues relating to the development of bulk simulants, calibration and test devices, target-hardening methods and chemical processes relating to the discrimination and detection of explosive devices.

**THE TRANSPORTATION RESEARCH BOARD** is a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering It evolved in 1974 from the Highway Research Board, which was established in 1920. The TRB incorporates all former HRB activities and also performs additional functions under a broader scope involving all modes of transportation and the interactions of transportation with society. The Board's purpose is to stimulate research concerning the nature and performance of transportation systems, to disseminate information that the research produces, and to encourage the application of appropriate research findings. The Board's program is carried out by more than 270 committees, task forces, and panels composed of more than 3,300 administrators, engineers, social scientists, attorneys, educators, and others concerned with transportation; they serve without compensation. The program is supported by state transportation and highway departments, the modal administrations of the U.S. Department of Transportation, the Association of American Railroads, the National Highway Traffic Safety Administration, and other organizations and individuals interested in the development of transportation.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr Bruce Alberts is president of the National Academy of Sciences.

The National Academy of Engineering was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Robert M.White is president of the National Academy of Engineering.

The Institute of Medicine was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Kenneth I. Shine is president of the Institute of Medicine.

The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce Alberts and Dr. Robert M. White are chairman and vice chairman, respectively, of the National Research Council.