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Critical Incident Management Guidelines

U.S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-1093

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The public transportation network in the United States includes 508 bus and rail agencies and 15 commuter railroads providing 22 million trips daily, 8 billion trips annually. These agencies employ almost 300,000 people and provide approximately 41 billion passenger miles of travel, about half by rail and half by nonrail service. Emergencies and disasters, whether they occur at transit agencies or in the communities they serve, threaten public transportation's ability to provide practical assistance to transit personnel with responsibility for planning, managing, and recovering from emergencies and disasters. Definitions and characteristics of these events and their impact on organizations and systems are provided. The evolution of emergency management in the transit environment is described, and specific emergency management tools are explained. These guidelines provide a detailed discussion of transit and community activities necessary to support emergency preparedness, mitigation, response, and recovery efforts.

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Preface

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ENGLISH TO METRIC

LENGTH (APPROXIMATE)

1 inch (in) = 2.5 centimeters (cm)
1 foot (ft) = 30 centimeters (cm)
1 yard (yd) = 0.9 meter (m)
1 mile (mi) = 1.6 kilometers (km)

AREA (APPROXIMATE)

1 square inch (sq in, in^2) = 6.5 square centimeters (cm^2)
1 square foot (sq ft, ft^2) = 0.09 square meter (m^2)
1 square yard (sq yd, yd^2) = 0.8 square meter (m^2)
1 square mile (sq mi, mi^2) = 2.6 square kilometers (km^2)
1 acre = 0.4 hectare (ha) = 4,000 square meters (m^2)

MASS - WEIGHT (APPROXIMATE)

1 ounce (oz) = 28 grams (gm)
1 pound (lb) = .45 kilogram (kg)
1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)

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1 tablespoon (tbsp) = 15 milliliters (ml)
1 fluid ounce (fl oz) = 30 milliliters (ml)
1 cup (c) = 0.24 liter (l)
1 pint (pt) = 0.47 liter (l)
1 quart (qt) = 0.96 liter (1)
1 gallon (gal) = 3.8 liters (l)
1 cubic foot (cu ft, ft^3) = 0.03 cubic meter (m^3)
1 cubic yard (cu yd, yd^3) = 0.76 cubic meter (m^3)

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1 centimeter (cm) = 0.4 inch (in)
1 meter (m) = 3.3 feet (ft)
1 meter (m) = 1.1 yards (yd)
1 kilometer (km) = 0.6 mile (mi)

AREA (APPROXIMATE)

1 square centimeter (cm^2) = 0.16 square inch (sq in, in^2)
1 square meter (m^2) = 1.2 square yards (sq yd, yd^2)
1 square kilometer (km^2) = 0.4 square mile (sq mi, mi^2)
10,000 square meters (m^2) = 1 hectare (ha) = 2.5 acres

MASS - WEIGHT (APPROXIMATE)

1 gram (gm) = 0.036 ounce (oz)
1 kilogram (kg) = 2.2 pounds (lb)
1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons

VOLUME (APPROXIMATE)

1 milliliter (ml) = 0.03 fluid ounce (fl oz)
1 liter (1) = 2.1 pints (pt)
1 liter (l) = 1.06 quarts (qt)
1 liter (l) = 0.26 gallon (gal)
1 cubic meter (m^3) = 36 cubic feet (cu ft, ft^3)
1 cubic meter (m^3) = 1.3 cubic yards (cu yd, yd^3)

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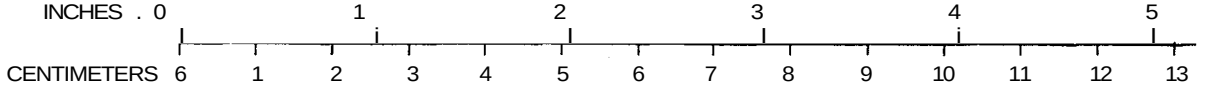

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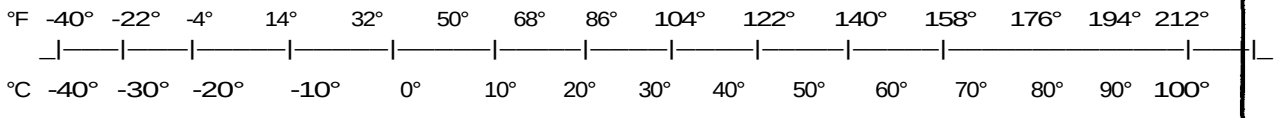

For more exact and or other conversion factors, see NIST Miscellaneous Publication 286, Units of Weights and Measures. Price$2.50. SD Catalog No. C13 10286. updated 8/1/96

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Executive Summary

The public transportation network in the United States includes 508 bus and rail agencies and 15 commuter railroads providing 22 million trips daily - 8 billion trips annually. These agencies employ almost 300,000 people and provide approximately 41 billion passenger miles of travel, about half by rail and half by non-rail service. Emergencies and disasters, whether they occur at transit agencies or in the communities they serve, threaten public transportation's ability to provide a safe and secure environment for travel.

Major incidents such as train accidents, fires, floods, and terrorist attacks have been an issue for transit agencies and transit management since the development of modern public transportation. The earliest examples include the 1862 Fleet River Flood and the 1881 terrorist bombing between Charing Cross and Westminster Station, both on the London Underground, and the devastating 1918 Malbone Street wreck on the Brooklyn Rapid Transit (BRT), one of the predecessors to the New York City subway.

Experience with these events, and numerous others, confirms that responding to critical incidents is one of. the most difficult functions performed in the transit environment. During transit emergencies, personnel from multiple transit disciplines and outside agencies must come together to manage the incident, performing such tasks as rescuing or evacuating passengers, extinguishing fires, controlling crowds, repairing track and wayside structures, and restoring service.

These guidelines have been designed to provide practical assistance to transit personnel with responsibility for planning, managing, and recovering from emergencies and disasters. Definitions and characteristics of these events and their impact on organizations and systems are provided. The evolution of emergency management in the transit environment is detailed, and specific emergency management tools are explained. Chapter 1 will provide an overview of *Comprehensive Emergency Management,* followed by a detailed discussion of the ***Integrated Emergency Management System*** *(IEMS)* and its use by organizations such as the Federal Emergency Management Agency (FEMA).

Subsequent chapters will outline transit-specific requirements for IEMS implementation, including:

- Detailing emergency preparedness, mitigation, response, and recovery strategies
- Providing guidelines for developing plans and coordinating the outside resources required to manage emergencies and disasters in the transit setting
- Presenting examples of emergency management practices used by various transit systems throughout the United States

Scope

Managing emergencies in the transit environment involves numerous diverse activities which may be performed by transit operations, transit police, safety, security, or risk management departments, or by an emergency coordinator, whose job is devoted to •developing, monitoring, and maintaining emergency policies, procedures, and specifications. Throughout this document, the term ***Emergency Manager*** is used to describe the transit official responsible for overseeing emergency managementactivities.

The role of the Emergency Manager is to use a variety of resources, techniques, and skills to reduce the probability and impact of extreme incidents, and to restore facility operations expeditiously should an emergency occur. Within the transit environment, it is the Emergency Manager's task to ensure that there is in place a plan for which emergency responsibility, authority, and channels of communication are well coordinated and clearly delineated.

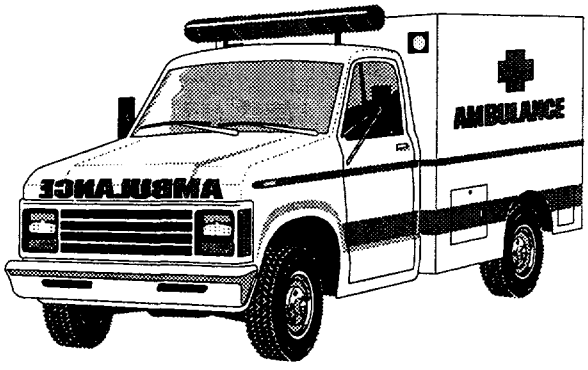
The purpose of these guidelines is to provide technical assistance to Emergency Managers, transit police, and other transit personnel, for effectively managing critical incidents that affect patrons, employees, facilities, equipment, service, and the safety of the surrounding community.

Terminology

Defining terms is essential to understanding the nature of critical incidents and organizational responses. Multiple organizations and personnel must agree on the use and meaning of emergency management terms and phrases. Emergency management terms must function within the transit environment, and "transfer" successfully to public safety organizations.

The process of developing definitions can be highly instructive for the transit agency, focusing discussion and raising awareness as each transit agency must determine which types of impacts and consequences can be managed through Standard Operating Procedures (SOPs) and which require the activation of an Emergency Plan and emergency procedures.

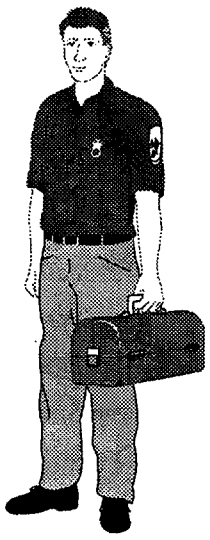
The most fundamental and often used emergency terms are ***emergency, disaster,*** and ***crisis.*** These terms are often used in the transit industry to refer to a number of circumstances that disrupt service and demand action. For this reason, these terms are explicitly defined as they are used in these guidelines.



Definition

Emergency: A sudden and usually unforeseen event that requires immediate action by the transit agency to minimize consequences. Emergencies may be routine adverse events that do not have communitywide impact or do not require extraordinary use of resources or procedures to bring conditions back to normal (also referred to as a critical incident).

In the transit environment, emergencies may be rated according to severity. Use of such a rating system for differentiating levels of emergency provides a universal standard for determining the magnitude and scope of emergency response required by the event. Such distinction can aid the notification system and improve speed and effectiveness of response. In addition, levels of emergency can be tied to the activation of particular emergency management functions, including the Incident Command System (ICS) and the Emergency Operations Center (EOC), which will be discussed later in this document.



Example

Many transit systems use a multi-level classification, tailored to the operating environment of the system. For example, San Francisco Bay Area Rapid Transit District (BART) recognizes three levels of emergency:

- Minor emergencies resolved at the local level
- Major emergencies may require support from the state government
- Catastrophic emergencies require support from the state and possibly the Federal Government.

For the same reasons that the term "emergency" is difficult to define, "disaster" also defies easy categorization. The two terms seem similar; however, the differences between an emergency and a disaster have significant consequences for the transit agency. A disaster may require:

- State and Federal agency involvement
- Extensive coordination of personnel from multiple agencies
- Declaration from government officials
- Activation of special plans and procedures.
- Finally, a disaster may have more serious consequences for the entire community served by the transit agency.

Definition

Disaster: Is when a system needs to go outside of its own system for additional resources. A disaster may be short-term, long-term, man-made, or natural. Communities may have advanced warning of an impending disaster and still not be able to function using their own resources. Also referred to as a catastrophe.

The term "crisis" is significant for the organizations responding to an emergency or disaster. This term describes the impact that these events have on an organization and its ability to cope with the event. An emergency or unusual occurrence such as a train accident, derailment, or fire can become a crisis, a disaster, or both.

Definition

Crisis: The impact on an organization and its ability to cope with or respond to an extraordinary incident or event.

Appendix A provides a complete list of definitions for terms that are used in this document.

1. Comprehensive Emergency Management

A major crisis significantly impacts communities, businesses, and public transportation systems. Hurricane Andrew blasts through South Florida causing more than $25 billion in damage, destroying businesses, vital community facilities, and residences. An earthquake measuring 7 on the Richter scale kills nearly 6,000 people, injures more than 16,000 and destroys more than 55,000 buildings in Kobe, Japan. A four-day riot occurs in Los Angeles, leaving 51 people dead, approximately 2,500 wounded, and causing at least $1 billion in damages. A bombing of the Murrah Federal Building in Oklahoma City results in 169 deaths and approximately 500 injuries, the greatest terrorist tragedy in U.S. history.

As these examples indicate, the consequences of a crisis can be severe for any community. To reduce loss of life and property and to protect critical facilities and operations from all types of hazards, many local governments use comprehensive, risk-based crisis management programs. The role of transit agencies in this process is not always clear.

The increasing frequency of both natural and human-caused crises, however, requires that transit agencies must be prepared for events that may result in the following:

- Death and severe injury
- Damage and disruption to normal systems which cannot be managed through routine procedures and resources
- External assistance (the involvement of public safety organizations, including local police, fire, and emergency service departments).

Transit agencies have unique status in the emergency response community. Local bus and rail systems are often required to support community efforts during and after a significant crisis, transporting people and goods to safe locations. Transit systems have inherent vulnerabilities, however, which may limit their effectiveness during a crisis.

To support community response and recovery operations and to reduce vulnerability to the effects of a crisis, transit agencies are developing emergency management programs that meet both agency and community needs.

While the functions of emergency management have been performed for decades by government and private organizations, it was only recently that the broader ideas about managing emergencies discussed in these guidelines were developed.

The concept used for handling disasters and their consequences is called Comprehensive Emergency Management (CEM). This approach was institutionalized in 1979 with the creation of the Federal Emergency Management Agency (FEMA). FEMA resulted from the consolidation of five Federal agencies that dealt with many types of emergencies. Since that time, many state and local organizations have accepted this approach and changed the names of their organizations to include the words "emergency management."

The name change was an indication of a change in orientation away from specialized preparedness for single hazards or narrowly defined categories of hazards and toward an all-hazards approach to potential threats to life and property. As Congress and FEMA have been quick to point out, this change reflects not a reduction in security, but an increased emphasis on the nation's emergency management capability to respond to any major emergency.

This was not the only change brought about by the development of the concept of Comprehensive Emergency Management. The term "comprehensive" broadened the scope of emergency management by introducing the concept of *Phases.* Phases come from the idea that disasters have a lifecycle. Although hazards may always be present, it takes some event or accident to turn it into a disaster. As a result, one of the basic principles of CEM is that measures can be taken both before and after a hazardous situation occurs. CEM asserts that there are four integrated phases of emergency management that aid in protecting a community.

1.1 Phases of Emergency Management

In the past, emergency management has focused primarily on response. Being able to respond, however, is only one phase of CEM. A community also must address emergencies before they occur and must share in the responsibility to aid recovery. As a result, current thinking defines four phases of CEM—*Preparedness, Mitigation, Response,* and *Recovery.* The four phases of comprehensive emergency management are visualized as having a circular relationship. Each phase results from the previous one and establishes the requirements of the next one. Activities in one phase may overlap those in the previous one.

The CEM phases are described in detail in separate chapters of this document and are briefly defined below:

- *Preparedness* - Activities performed in advance to develop response and recovery capabilities (see Chapter 3)

- *Mitigation* - Activities performed in advance to reduce or eliminate hazards (see Chapter 4)

- *Response* - Activities performed after a crisis occurs to save lives, protect property, and stabilize the situation (see Chapter 5)

- *Recovery* - Activities performed after a crisis has been stabilized to return al systems to normal (see Chapter 6).

Historically, FEMA has used these same four phases, but with mitigation preceding preparedness. Many agencies and emergency response practitioners, however, have begun to consider preparedness to be the logical first stage of their emergency management programs. By performing preparedness activities first, mitigation efforts, such as design modifications, are organized into an overall effort to prevent, respond, and successfully recover from an event should it occur.

1.2 Implementing Emergency Management

The concept of an all-hazards approach to emergency management, as outlined in CEM, has been implemented by FEMA in its Integrated Emergency Management System (IEMS). The implementation of IEMS is used to minimize, prepare for, and react to hazards in the transit environment, in accord with the four phases of CEM.

IEMS is a long-term, all-hazard concept for improving the program implementation and development of emergency management capabilities at the state and local levels. It is a process for applying comprehensive emergency management concepts to "real world" emergency plans and capabilities. It formally recognizes the roles of emergency forces responding to the full range of emergencies at the local level. Its specific objectives are to:

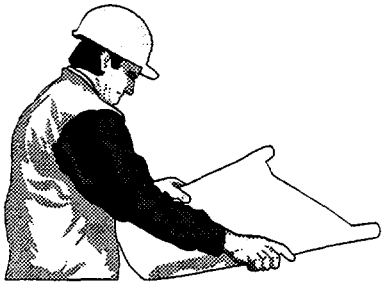
- Save lives and protect property threatened by hazards

- Reduce duplication of efforts and resources

- Increase jurisdictional flexibility in upgrading the capacity to handle potential hazards

- Integrate FEMA support and objectives with those state and local operational requirements.

The IEMS approach recognizes that there are certain characteristics and requirements, which are common across the full spectrum of emergencies including evacuation, sheltering, and provision of food and medical supplies. FEMA's programs are using the IEMS approach to assist state and local officials in building capabilities in these areas as a basic foundation for planning, response, recovery, and mitigation of hazards whether they are related to natural or technological disasters, resources, resource shortages, or war-related national security situations.



The IEMS has been introduced to a nationwide network of emergency management organizations representing thousands of jurisdictions, not all confronted by the same hazards, and not all having or requiring the same capabilities. Employing the IEMS process, therefore, will require different levels of effort by each jurisdiction and will result in the identification of different functional areas requiring attention. The process, however, is logical and applicable to all jurisdictions regardless of their size, level of sophistication, potential hazards, or current capabilities.

The goal of IEMS is to develop and maintain a credible emergency management capability nationwide by integrating activities along functional lines at all levels of government and, to the fullest extent possible, across all hazards. It should be kept in mind that the IEMS process is a means of improving capability and is not an end in itself. The various steps in the IEMS process are intended to serve management at each level of government by providing basic information upon which reasonable and justifiable plans can be made and effective action taken to increase emergency management capability nationwide. State and local governments can begin to implement IEMS:

- Determining the hazards and magnitude of risk in a logical, consistent manner

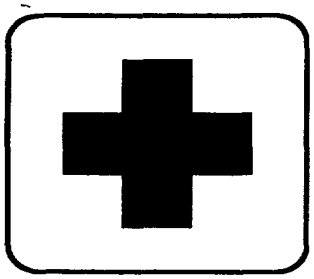
- Assessing the existing and required capability with respect to those hazards

- Establishing realistic local and State-tailored plans that lay out necessary actions for closing the gap between existing and required levels of capability.

Operationally, IEMS provides the framework to support the development of emergency management capabilities based on functions that are required for all hazards. The above mentioned efforts are related and must be undertaken sequentially. The identification of hazards forms the basis for assessing capability and determining the capability shortfall. The shortfall, in turn, leads to preparation of a multi-year development plan.

These initial steps are the starting points for integrating emergency management activities on a multi-hazard, functional basis. It should be kept in mind that this process is a means of improving capability and is not an end in itself.

The various steps in the IEMS process are intended to serve management at each level of government by providing basic information upon which reasonable and justifiable plans can be made and effective action can be taken to increase emergency management capability nationwide.



1.3 Integrated Emergency Management Implementation

In order to provide a brief description of the IEMS process, each step is described below as it would apply to a jurisdiction that has done little toward developing the capability required, given its potential hazards. In some jurisdictions certain steps in the process may require only a review, following the guidance provided, to ensure consistency in the application of the process and that nothing has been overlooked.

There are thirteen steps to IEMS:'

STEP 1: *Hazards Analysis.* Knowing what could happen, the likelihood of occurrence, and the magnitude of problems resulting from such an occurrence are essential ingredients for emergency planning. The first step, then, is for a jurisdiction to identify potential hazards and to determine the probable impact each of those hazards could have on people and property. This task need not be complicated or highly sophisticated to provide useful results. What is important is that all hazards that pose a potential threat to the jurisdiction are identified and addressed in the jurisdiction's emergency response planning and mitigation efforts.'

[1] International Association of Fire Chiefs, "IEMS Concept," 1998.

STEP 2: *Capability Assessment.* The next step for the jurisdiction is to assess its current capability for dealing with the hazards that have been identified in Step 1. Current capability is determined against standards and criteria FEMA has established as necessary to perform basic emergency management functions (e.g., alerting and warning, evacuation, emergency communications). The resulting information provides a summary of the capabilities that exist and upon which current plans should be prepared (Step 3), and leads to the identification of the jurisdiction's weaknesses (Step 8).

STEP 3: *Emergency Operations Plans.* A plan should be developed with functional variations common to the hazards identified in Step 1. Those activities unique to specific hazards should be described separately. This approach is a departure from previous guidance, which stressed development of hazard-specific plans. Existing plans should be reviewed and modified as necessary to ensure their applicability to all hazards that pose a potential threat to the jurisdiction. The exact format of the plan is less important than the assurance that the planning process considers each function from a multi-hazard perspective.

STEP 4: *Capability Maintenance.* Once developed, the ability to take appropriate and effective action against any hazard must be continually monitored or it will diminish significantly over time. Plans must be updated; equipment must be serviced and tested; personnel must be trained; procedures and systems must be exercised. This is particularly important for jurisdictions that do not experience frequent large-scale emergencies.

STEP 5: *Mitigation Efforts.* Mitigating the potential effects of hazards should be given high priority. Resources utilized to limit the effects of a hazard or reduce or eliminate the hazard can minimize loss and suffering in the future. For example, proper land-use management and stringent building and safety codes can lessen the effects of future disasters. Significant mitigation efforts can also reduce the level of capability needed to conduct recovery operations, thereby reducing the capability shortfall that may exist. The results of these efforts will be reflected in future hazards analyses (Step 1) and capability assessments (Step 2).

STEP 6: *Emergency Operations.* The need to conduct emergency operations may arise at any time and must be carried out under current plans and with current resources despite the existence of plans for making improvements in the future. These operations, however, can provide an opportunity to test existing capabilities under real conditions.

STEP 7: *Evaluation.* The outcome of the emergency operations (Step 6) should be analyzed and assessed in terms of actual vs. required capabilities and considered in subsequent updates of Steps 2 and 8. Identifying the need for future mitigation efforts should be an important part of each evaluation. Tests and exercises should be undertaken for the purpose of evaluation, especially where disasters occur infrequently.

STEP 8: *Capability Shortfall.* The difference between current capability (Step 2) and the optimum capability reflected in the standards and criteria established by FEMA represents the capability shortfall. The areas not currently meeting the assessment criteria should receive primary consideration when preparing the jurisdiction's multi-year development plan (Step 9).

STEP 9: *Multi-Year Development Plan.* Based on the capability shortfall identified in Step 8, the jurisdiction should prepare a multi-year development plan tailored to meet its unique situation and requirements. The plan should outline what needs to be done to reach the desired level of capability. Ideally, this plan should cover a five-year period so that long-term development projects can be properly scheduled and adequately funded. The plan should include all emergency management projects and activities to be undertaken by the jurisdiction regardless of the funding source. When used in conjunction with the hazards analysis and capability assessment results, these plans should be helpful in convincing local chief executives of the need for improvements and in presenting a logical, realistic schedule of the projects and activities that should be given priority over the next five years. At the State level, this information should be used to develop a Statewide multi-year plan for supporting local development efforts and in determining priority State requirements for Federal financial and technical support through Comprehensive Cooperative Agreements.

STEP 10: *Annual Development Increment.* With the multi-year development plan serving as a framework for improving capability over time, the next step is to determine in detail what is going to be done next year. Situations change each year and perhaps more or less were accomplished the year before than had been planned. These factors should be reflected in modifications to the multi-year development plan and in determining next year's annual increment. Through this process, emergency manager's can provide their local officials and State counterparts with detailed descriptions of what they plan to accomplish in the coming year and their requirements for financial and technical assistance in support of these efforts. During the initial implementation of

IEMS, no major change is contemplated to reporting procedures now in effect. FEMA is Exploring opportunities, however, for simplifying reporting and tracking through automation.

STEP 11: *State/Local Resources.* State and local governments are expected to contribute financially and in-kind to capability development and maintenance efforts as they have done in the past. Some activities identified in the annual increment may be accomplished solely with local resources, while others may require State and/or Federal support. Whatever the source of funding and other support, each project and activity should represent a necessary building block in the jurisdiction's overall capability development program.

STEP 12: *Federal Resources.* The Federal Government will continue to provide policy and procedural guidance, financial aid, technical support, and staff resources to assist State and local governments in developing and maintaining capability. FEMA's Comprehensive Cooperative Agreement with States will remain the vehicle for funding FEMA-approved projects and activities on an annual basis.

STEP 13: *Annual Work Increment.* As capability development projects and activities are completed, the jurisdiction's capability shortfall will be reduced. These improvements will be reflected in the capability assessment and capability shortfall (Steps 2 and 8) as the results of the process are reviewed each year. Emergency operations plans should then be revised to incorporate these improvements. Multi-year development plans also should be modified in view of these changes and the experience gained during exercises and the conduct of actual emergency operations. Each State should provide a method for recording and consolidating local annual work increments.

IEMS provides the Emergency Manager a broad outline, as well as specific roles and responsibilities the manager is to follow in the event of an emergency. The complexity of an emergency situation requires considerable planning, training, and coordination beforehand to ensure that response contingencies can be addressed and resolved. The transit agency, transit police, and local public safety organizations all share the common goals of saving lives, limiting casualties and damage, and restoring the system and the surrounding area as quickly as possible. To achieve these goals, IEMS objectives include:

- Fostering a flexible Federal, State, and local government partnership

- Emphasizing implementation of emergency management measures which are known to be effective

- Achieving more complete integration of emergency management planning into mainstream state and local policymaking and operational systems

- Building on the foundation of existing emergency management plans, systems, and capabilities to broaden their applicability to the full spectrum of emergencies.

1.4 Emergency Program Manager

The Emergency Program Manager has the responsibility for coordinating all the components of the emergency management system in the jurisdiction. Among those agencies contributing efforts may include the following:

- Civil Defense

- Fire and Police

- Emergency Medical Service

- Public Works

It is the emergency manager's responsibility to make certain that the agencies involved in the emergency management system are aware of the threats to the community, know the plans for emergencies, and can conduct recovery operations after a disaster.

In order to perform the tasks of emergency management, the program manager must call on the necessary resources of the community. To succeed, the emergency program manager must carry out the task of developing and maintaining effective relationships with government, private, and voluntary sectors of the community. The objectives of these relationships are to facilitate mutual consultation, exchange information, and provide agreements for cooperative action.

1.5 Importance of Emergency Management in the Transit Environment

Although IEMS generally is used for managing crises, the concept and approach of integrated comprehensive management are also applicable to day-to-day emergencies, such as minor accidents, track fires, and criminal incidents. Transit systems use an IEMS approach tailored to meet their needs as a transit provider. This approach requires the transit system to:

- Identify risks and vulnerabilities

- Inventory community resources

- Outline the roles and responsibilities of municipal public safety departments

- Ensure coordination and communication among departments, businesses, and volunteer organizations.

Recent experience at transit systems and in the community at large have led to a higher level of sophistication in equipping organizations and personnel for responding to and managing emergencies. As a result, the management response to critical incidents has evolved from an ad hoc *Incident-Specific Approach* toward acceptance of an *Integrated, Comprehensive Approach.*

1.6 New Directions for Crisis Management

Crisis and emergency management is constantly evolving, incorporating lessons learned as well as facing new threats. One of the most effective recent developments has been the wide acceptance of the Incident Command System (ICS) as a management tool or organizational structure for guiding response to emergencies and disasters. ICS is particularly, suited to the response phase (i.e., the actual application of resources to contain and control the critical incident) of an event since it easily expands and adapts to the situation at hand.

Just as transit systems are beginning to recognize emergency management as a discipline and realize the benefits of ICS in managing response, an awareness of intentional threats and vulnerability of the transit infrastructure is emerging.

Possible issues that an emergency program manager may be faced with are as follows:

- Managing intentional incidents
- Preparedness and scene management
- Enhanced response planning

Further, managing an emergency is more complex than "throwing resources" at the problem. Emergency Managers need to know—in real time—what the full scope of the situation is, how to negotiate an appropriate and workable response from a number of actors, and how to then apply those resources in the proper sequence to the task or tasks needed to be achieved at any given time within the course of an incident.

2. Problem Identification, Hazard Analysis, Risk Assessment, and Planning

Additional developments in emergency management preparedness include *recognition* of the complex and evolving nature of managing crises. Such recognition includes both preparedness and scene management issues. Refinement of the four phases of emergency management (discussed earlier) to encompass problem identification, hazard analysis, and planning within the preparedness phase is necessary to meet the evolving demands of emergency preparation and response. This expanded understanding views problem identification and hazard analysis as essential to fully understand the type, nature, scope, and potential consequences of one or all possible threats or hazards facing a jurisdiction.

Basic IEMS Phases

- Preparedness
- Mitigation
- Response
- Recovery

Expanded IEMS Phases

- Problem Identification
- Hazard Analysis
- Planning
- Mitigation
- Response
- Recovery

Planning is viewed as the identification of appropriate resources and methods to reduce the impact of critical incidents. To be effective, planning must include an assessment of actual capabilities and a coordinated approach. Planning determines the best strategic application of resources and methods (tactics) to a problem. Scene management is reinforced through decision tools such as checklists and threat analysis developed during planning efforts.

2.1 Problem Identification and Hazard Analysis

Traditionally, the identification of potential emergency and disaster issues or hazards, faced by an organization, is considered within both the preparedness and mitigation phases of emergency management. Once the most likely hazards (such as hurricane, earthquake, intentional events such as terrorism, or crashes and derailments) are

identified, the transit Emergency Manager and other personnel then take steps to plain for managing these events (preparedness) or limiting their impact (mitigation or prevention).

Both preparedness and mitigation require planning. Because of this, the four IEMS phases of emergency management do not specifically identify problem identification, hazard analysis, and planning as separate phases. Since these elements are essential to developing meaningful preparedness and mitigation programs they are considered separately here but, alternatively, should be considered integral elements of the four basic phases.

2.2 Risk Assessment and Resolution

Enhanced emergency response capabilities begin with a transit agency's assessment of the existing risks and subsequent determinations concerning the appropriate resources to invest in preparedness and mitigation activities.

This process of risk identification and resolution has three steps:

(1) Perform risk assessment

(2) Identify hazard severity and probability

(3) Resolve identified risks and hazards.

2.2.1 Perform Risk Assessment

A risk assessment is a comprehensive study of a system to identify those components most vulnerable to disruption or destruction and to assess the likely impact that such disruption or destruction would have on passengers, employees, and the system. The results of a risk assessment aids transit officials in making crucial decisions regarding the deployment of available resources. Transit agencies must be aware of important facility assets, and must understand which of these facilities and technologies are critical to the effective operation of the system.

A common approach to conducting a risk assessment is to assign values to facilities based on their criticality to transit system operations. For example, many transit agencies use a five-level risk classification system, as depicted in Table 1.

Table 1: Transit Risk Assessment Levels

Risk Level	Requirements
1	Areas where the loss of or damage to facilities has a major financial loss or the extended interruption of critical services
2	Areas containing physical value, confidential information, or computer access to sensitive data/operational processing networks
3	Areas whose disruption is moderately serious for the agency
4	Areas relatively unimportant to the agency operations
5	Unable to assess

The interrelationship of vulnerabilities and critical functions must be understood and addressed carefully during the risk assessment. Table 2 presents a risk assessment performed by the General Accounting Office (GAO) for the rail transit environment. Rail transit components are identified and listed in the figure.

Assessments of risk factors were determined by 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.

Table 2: 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	Medium
Fans, Vents, and Emergency Hatches	Low	Medium	Medium

[a] Depends on 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 crossover or main junction would have greater impact than one at an outlying station or track segment

[c] Affects employees only

2.2.2 Identify Hazard Severity and Probability

Once a risk assessment has been completed, potential hazards for high-risk areas of the system should be documented. This documentation enables system vulnerabilities to be clearly identified and prioritized.

Several methods may be used to identify these hazards, including the following:

- Analysis of historical data and application of this information to the development of different scenarios for vulnerability
- Review of checklists developed by the agency or obtained through other sources such as consultants

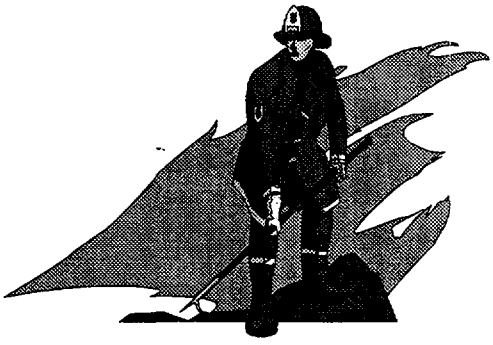
- Judgment of transit agency senior personnel (based on experience and knowledge of system vulnerabilities)

- Use of formal analyses.

To assist in performing this analysis, crises that could occur both within a specified transit facility and within the surrounding community should be considered. Other factors to consider include the following:

Historical — What types of events have occurred at the transit system?

- Fires
- Severe weather
- Hazardous material spills
- Transportation accidents
- Earthquakes
- Hurricanes
- Tornadoes
- Terrorism/Quasi-terrorism
- Utility outages



Geographic — What can happen as a result of the transit system's location?

- Proximity to flood plains, seismic faults, and dams
- Proximity to companies that produce, store, use, or transport hazardous materials
- Proximity to nuclear power plants

Technological -- What could result from a process or system failure?

- Fire, explosion, hazardous materials incident
- Safety system failure
- Telecommunications failure
- Computer system failure
- Power failure
- Heating/cooling system failure
- Emergency notification system failure

Human Error — What emergencies can be caused by employee error? Are employees trained to work safely? Do they know what to do in an emergency? Human error is the single largest cause of workplace emergencies and can result from:

- Poor training
- Poor maintenance
- Carelessness
- Misconduct
- Substance abuse
- Fatigue

Physical — What types of emergencies could result from the design or construction of a transit facility or vehicle? Does the physical facility enhance safety? Consider:

- Physical construction of the facility
- Hazardous processes or by-products
- Facilities for storing combustibles
- Layout of equipment
- Lighting
- Evacuation routes and exits
- Proximity of shelter areas

Regulatory — What emergencies or hazards is the transit system regulated to deal with? Analyze each potential emergency from beginning to end. Consider what could happen as a result of:

- Prohibited access to the facility
- Loss of electric power
- Communication lines down
- Ruptured gas mains
- Water damage
- Smoke damage
- Structural damage
- Air or water contamination
- Explosion
- Building collapse
- Trapped persons
- Chemical release

Figure 1 provides information sources frequently used in the transit environment to support hazard identification initiatives.

Data Sources	
SAFETY HAZARDS	SECURITY THREATS & VULNERABILITIES
Design - Codes and standards - Recommended practices - Specifications - Drawings - Manufacturer's data Operational - Daily operations logs - Accident investigations - Emergency exercises - Operating procedures - Inter-organizational agreements Maintenance - Preventive programs - Inspection reports - Failure reports - Reliability reports Test Results - System operational tests - Vehicle operational tests - Safety critical tests	Transit System Data - Operational - Crime - Security Resource - Personnel - Equipment - Finance Geographic - Entire system - Specific sections - Specific routes Socioeconomic - Characteristics of victims - Characteristics of the operating area - Characteristics of the routes Psychological Data - Perpetrators' motives - Perpetrators' perception of system activities

Figure 1: Sources of Data for Safety and Security Risk Assessments

Once hazards have been identified, their severity and probability of occurrence should be evaluated. Such evaluation provides both the Emergency Manager and other transit personnel with the opportunity to prioritize hazards and assess which mitigation measures are most cost effective.

2.2.3 Resolve Identified Risks and Hazards

Table 3 provides a matrix for mitigating hazards based on frequency of occurrence and severity. This matrix condenses risk resolution into a table and prioritizes the risks that are evaluated. The matrix presents severity ranging from I (most severe) to IV (least severe) and probability of occurrence ranging from A (frequent) to E (improbable). From this matrix, four categories can be assigned:

(1) Unacceptable (IA, IIA, IIIA, IB, IIB, IC)
(2) Undesirable—allowable with agreement from management staff (IIIB, IIC, IIIC, ID, IID)
(3) Acceptable with notification of management staff (IVA, IVB, IIID, IE, IIE, IIIE)
(4) Acceptable (IVC, IVD, IVE)

Table 3: Hazard Resolution Matrix

	I. Catastrophic	II. Critical	III. Marginal	IV. Negligible
A.Frequent	Unacceptable	Unacceptable	Unacceptable	Acceptable/WR*
B. Probable	Unacceptable	Unacceptable	Undesirable	Acceptable/WR *
C.Occasional	Unacceptable	Undesirable	Undesirable	Acceptable
D. Remote	Undesirable	Undesirable	Acceptable/WR *	Acceptable
E. Improbable	Acceptable/WR *	Acceptable/WR *	Acceptable/WR *	Acceptable

*Acceptable/WR — Acceptable with review by management staff

The options for resolving hazards in order of decreasing desirability are:

- Design the system to eliminate the problem
- Design the system to control the problem
- Add safety or security devices to control the problem
- Add warning devices to control the problem
- Institute special procedures or training to control the problem.

A third factor, in addition to likelihood and severity, is cost. Thus, the decision often includes cost-benefit analyses.

It is helpful to involve other organizations in the risk assessment and hazard resolution process to provide a different perspective. Fire departments, for example, often do not factor in costs when conducting risk assessments, thereby providing a different perspective than the transit system. Insurance companies, too, may be able to provide a useful context for the risk assessment and hazard resolution process.

2.3 Pre-Planning and Planning

Planning is essential for effective emergency management. Not only do planning activities provide transit agencies and public safety personnel with procedures, training, drills, and emergency and operations plans to manage response to critical incidents, but also the process of planning enhances transit and public safety personnel understanding of response requirements.

Planning, as an extension of problem identification and hazard analysis, guides the Emergency Manager and transit personnel activities to resolve identified hazards and to establish and achieve a pre-determined level of emergency preparedness. Planning provides for a logical evaluation of agency resources and capabilities in the face of problem identification and hazard analysis outcomes. Planning enables the effective application of the results of problem identification and hazard analysis to the four IEMS phases.

Example

During the ***Preparedness Phase,*** problem identification and hazard analysis activities focus on identifying operating policies and procedures for the rapid mobilization of transit and public safety personnel in response to an emergency. Planning ensures the selection of optimal policies and procedures, their documentation in clear and widely distributed plans, and their implementation through comprehensive and effective training programs and drills.

In the ***Mitigation Phase,*** problem identification and hazard analysis provide crucial assessments to guide the development of design criteria, the selection of transit equipment and vehicles, and the modification of transit facilities. Planning ensures the selection and documentation of those features which ensure the most effective mitigation capabilities, which meet all Federal, State, and local requirements, and which successfully incorporate industry standards and advancements. Finally, planning supports agencywide efforts to ensure compliance with selected design criteria.

During the ***Response Phase,*** problem identification and hazard analysis efforts focus exclusively on the resolution of a single critical incident. These activities ensure the development of comprehensive operations plans for coordinating multi-agency response to the critical incident. This response is guided by cooperatively established incident objectives which ensure the efficient resolution of the incident and the safety of both affected persons and property and transit and public safety response personnel.

Finally, during the ***Recovery Phase,*** problem identification and hazard analysis support transit agency efforts to clear the emergency scene, conduct investigations, and restore service.. These activities result in recovery plans, which ensure the appropriate staging and operation of essential equipment and vehicles and the implementation of inter-organizational agreements with other transit providers.

3. Emergency Preparedness

The goal of the IEMS *Preparedness* phase is to provide a uniform basis for operating policies and procedures for mobilizing transit agency and other public safety resources to assure rapid, controlled, and predictable responses to various types of transit emergencies. Preparedness means being ready in advance to react promptly and effectively in the event of a crisis.

For some crises, such as a flood or hurricane, early warning may provide several hours to act; however, in many cases, crises will occur with no prior warning. Transit organizations confronting the devastation of an explosion, hazardous materials spill, major fire, or accident without a sufficient level of preparedness will likely be overwhelmed by events, unable to coordinate effectively with other agencies, and incapable of deploying available resources to resolve the incident quickly.

A transit system's preparedness directly influences the magnitude of danger in an emergency situation. Preparedness is emphasized in the transit environment in the following areas:

- Understanding roles and responsibilities
- Coordination with local, State, and Federal agencies
- Emergency plan and the transit agency ICS
- Emergency procedures
- Emergency training.

3.1 Understanding Roles and Responsibilities

The transit agency's required level of preparedness depends upon its legal, jurisdictional, and agency responsibilities for managing critical incidents as well as the level of threat and vulnerability faced. Since emergency response often is viewed as a public safety function, large bus and rail properties with sworn transit police departments have more responsibility for directly managing response than small bus

agencies with no security department and limited personnel devoted to safety/risk management functions.

Nevertheless, even small transit systems with limited resources share responsibility for coordinating response marshaling local response capabilities. Small agencies still must maintain an appropriate level of preparedness and can support the efforts of local responders to manage emergencies and disasters. Further, these organizations can provide vital assistance during community-wide natural disasters and other devastating occurrences.

Effective response to critical incidents in the transit environment requires the ***coordinated sharing of information and responsibilities.*** Transit and public safety personnel must:

- Work together to perform emergency response activities
- Communicate — to understand which activities have been completed, which activities remain, and which personnel will be performing necessary tasks
- Cooperate — to share the resources and skills required to resolve the situation in a unified action plan.

3.1.1 Public Safety Responsibilities

When designing programs to enhance transit agency emergency preparedness, understanding the activities performed by public safety organizations during response to emergencies and disasters is essential. Typical responsibilities of various local agencies (i.e., police departments, fire departments, EMS organizations, utility companies, medical examiners or coroners, other local officials, nonprofit and volunteer organizations, private vendors, hospitals and insurance companies) are presented in *Appendix B.*

3.1.2 Transit Agency Emergency Activities

During response to a critical incident, the transit agency may provide a variety of services and functions. For example, depending on the emergency situation, a rail transit agency may perform any of the following activities:

- Identify (or size up) the incident (obtain train number, length,

location, passenger load, and number of injured/disabled passengers)

- Report incident and notify appropriate personnel both within and outside the agency
- Implement train movement restrictions
- Ventilate tunnels (in the event of fire, to ensure that the fewest number of passengers/employees are exposed to smoke)
- Remove third rail or overhead catenary power on incident (or adjacent) track(s)
- Re-route/single track trains or cancel routes/close stations
- Cancel work orders for affected area(s)
- Uncouple affected trains and move to station/sweep and send rescue trains
- Update passengers on incident progress and delays (both at incident and throughout system, if necessary)
- Process claims and collect information for injured passengers
- Clear the tracks (in the event of collision or derailment)
- Provide heavy equipment at the scene
- Perform track/structure inspection/ damage assessment
- Ensure drug and alcohol screening of train operator(s)
- Conduct or participate in an accident investigation
- Take steps toward managing public information and the media.

For bus agencies, emergency responsibilities may include the following:

- Identify (or size up) the incident (description of what happened, operator name, number, route, location)
- Report incident and notify appropriate personnel both within and outside the agency
- Evacuate the vehicle

- Update passengers on incident progress and delays (both at incident and throughout system, if necessary)

- Process claims and collect information for injured passengers

- Provide alternate transportation/bus bridges during major incidents

- Ensure drug and alcohol screening of bus operator(s)

- Conduct or participate in accident investigation

- Take steps toward managing public information and the media.

The Emergency Manager, working with transit police, safety, and risk management personnel should determine the activities to be performed by the various transit department(s). In each case, the transit agency must identify:

- Who will perform these functions

- How they will be integrated into public safety response activities

- How decisions will be made during the incident

- How information will be communicated and verified.

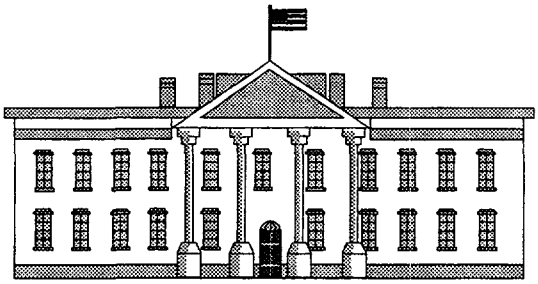
3.2 Coordination with Local, State, and Federal Agencies

Three levels of response often categorize transit emergencies:

- *Single jurisdiction responsibility with single agency involvement* (e.g., a minor accident which can be handled entirely by transit or local police)

- *Single jurisdiction responsibility with multi-agency involvement* (e.g., localized flooding, a long-term power outage, or a major fire that may require support from local police and fire departments, with either the local fire or police department maintaining full jurisdictional responsibility)

- *Multi-jurisdiction responsibility with multi-agency involvement* (e.g., a major natural disaster or terrorist incident which requires local, State, and Federal agency involvement).



The transit agency must be prepared to coordinate with external agencies for each of these response levels. To accomplish this, transit agencies have developed and are enhancing programs to maximize communication and coordination with local, State, and Federal agencies.

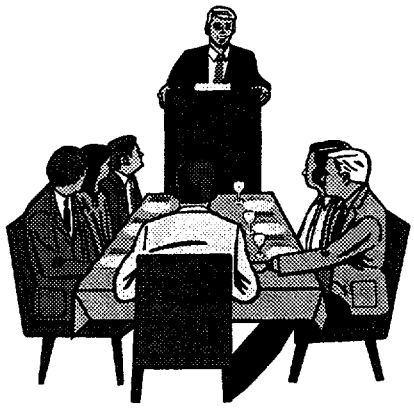
The nature of agency response also influences emergency operations. For example, a railway subject to Federal Railroad Administration (FRA) oversight experiencing a major fatal accident will directly interact with Federal regulatory agencies, while a transit agency experiencing a natural disaster would only interact with Federal agencies after requesting assistance through local (municipal or county) and then State agencies.

A transit agency may become involved in an event requiring Federal disaster assistance (either funding through the Stafford Act or assistance from Federal agencies through the Federal Response Plan). Access to Federal assistance is channeled through the local government to the state government and then to the Federal level after state resources are exhausted. A transit system would not directly access Federal assistance during a disaster.

3.2.1 Inter-organizational Emergency Memoranda of Understanding

Inter-organizational Memoranda of Understanding (MOUs) serve as the basis of mutual acknowledgment of the resources that each organization will provide during response and recovery efforts. These agreements are sometimes used to support Mutual Aid Pacts between two or more local jurisdictions. MOUs can take many different forms including:

- Formal, written mutual-aid agreements
- Oral agreements (sometimes preferred by particular parties, and have occasionally proved to be successful).



The transit agency must choose the form that works best with the particular responder. If adequate MOUs (or agreements) are in place and observed, coordination of activities during actual emergencies should involve following pre-established procedures.

Transit agencies developing inter-organizational emergency MOUs may include the following elements:

- A list of participating emergency response organizations, including names, signatures of approving officials, addresses, telephone numbers, radio frequencies, and call numbers or codes

- Definition of jurisdictional boundaries for primary responding organizations, and protocols for increasing the number of responding units beyond primary assistance when the magnitude of the emergency dictates

- Detailed definition of the chain of command and of control, communication, and evacuation procedures and responsibilities to be followed at the emergency scene

- A statement of how proposed changes to protocols will be reviewed, approved, and implemented as formal revisions by the participating organizations

- Description of and instructions for operation of specialized emergency equipment (including communications) on board a vehicle or in areas where a vehicle may be stopped (e.g., rail right-of-way and bus routes)

- Description of transit system personnel and their duties (these personnel can provide specific critical information about vehicle configuration, number and condition of passengers, hazards)

- Definitions for special terms peculiar to the MOUs, the transit system, and the other participating organizations

- Training responsibilities

- Provisions for revision or updating based on changing circumstances.

When arranging MOUs, the transit system may choose to distribute information (e.g., a booklet and/or a videotape) about the system to local response organizations in the system's operating territory. These materials should include illustrations of equipment and descriptions of entry and evacuation procedures for the transit

system's vehicles, stations, and other facilities.

Transit systems, such as LIRR and Long Island Bus, which pass through large areas that are serviced almost exclusively by many small volunteer fire departments, may want to encourage the fire departments to form consortiums to simplify development and implementation of protocols.

3.2.2 Agreements with Other Transit Systems

Formal mutual assistance cost-sharing agreements can be established with other transit systems to provide automatic aid between systems. This creates "interchangeable parts," enabling transit services to minimize interruption of service. Cooperative multi-system response exercises between the participating systems should then be held to identify weaknesses and improve coordination.

3.2.3 Memberships in Local Organizations

Memberships in local organizations (e.g., local government boards, transportation groups, and emergency preparedness groups) located near the transit system's operating area provide a presence in the community and opportunities to form and improve working relationships. Board and community meetings provide a forum for exchange of information and ideas.

3.2.4 Contracts with Outside Vendors and Volunteer Organizations

The transit system should maintain a list of response services and equipment that the system cannot provide. This should be an ongoing effort that includes review of all system incidents and exercises and review of responses by other transit systems and organizations. A continual search for service providers and equipment owners should be conducted and the ability to execute contracts to provide for ready access to the resources should be available.

These contracts should:

- Provide for special communication or coordination needs of the contractor
- Specify responsibility for medical care for injured contractor personnel
- Address any other liability issues.

Agreements should be in place with radio and television stations to communicate advisory messages and updates.

Example

Transit agencies in the San Francisco area have formed the San Francisco Bay Area Transit Operators Agreement. The participants are:

- Alameda-Contra Costa Transit District
- San Francisco BART District
- Contra Costa County Transportation Authority
- Golden Gate Bridge, Highway, and Transportation District
- Livermore-Amador Valley Transit Authority
- San Francisco Municipal Railway (MUNI)
- San Mateo County Transit District
- Santa Clara County Transit District
- City of Vallejo

The participants provide voluntary assistance to each other to ensure that public transportation services continue throughout the region to the maximum extent practical during major service interruptions. Assistance is generally in the form of equipment (e.g., transit and maintenance vehicles, portable generators, and tools), supplies, and personnel.

Other private sector resources to investigate include:

- Insurance agents
- Architects
- Fire protection engineers
- Safety experts
- Caterers and other food service providers
- Mental health professionals
- Funeral directors
- Providers of refrigeration for and transport of fatal victims
- Providers of fuel
- Specialized recovery teams (e.g., search dog teams)
- Religious and other volunteer organizations

- Providers of transportation and other services to the elderly and the disabled.

Agreements with businesses and volunteer organizations can be used to provide special services, such as providing temporary emergency shelter for large numbers of evacuees. Contracts may be needed to ensure availability of fuel for emergency operations.

Agreements can also be made to allow response organizations (e.g., fire departments) access to rescue equipment of other agencies or private companies. Ideas for access to such assets can be found outside of the traditional sources. For example, a crane being used for construction or rehabilitation at a transit station or facility where there is a fire can be a tremendous asset in suppressing the fire and containing the emergency. Transit companies should try to identify such potential assets and enter into reciprocal agreements with the organizations that control them.

3.3 Emergency Plan and the Transit Agency ICS

The purpose of an Emergency Plan is to establish the emergency policies and guidelines for the procedures that will be implemented by the transit system and other responding agencies whenever a life-threatening situation occurs on or near the transit system. In general, Emergency Plans used in the transit environment provide guidance for:

- Reporting the incident
- Evaluating the incident
- Using the ICS
- Notifying emergency response personnel/agencies
- Protecting personnel and equipment at the incident site
- Dispatching Emergency Response Personnel and equipment to the incident site
- Evacuating passengers
- Providing incident briefings and information updates
- Managing the emergency
- Restoring the system to normal.

A key goal of the Emergency Plan is to establish ***Unified Command*** with local responders. Unified Command allows all agencies with geographical, legal or functional responsibility to establish a common set of incident objectives and

strategies, and a single plan for action. Using Unified Command, the transit agency can work with local police, fire, and emergency services personnel to ensure that:

- One set of objectives is developed for the entire incident
- A collective approach is used to develop strategies to achieve incident goals
- Information flow and coordination is improved between all jurisdictions and agencies involved in the incident
- All agencies with responsibility for the incident have an understanding of joint priorities and restrictions
- No agency's authority or legal requirements are compromised or neglected
- Each agency is fully aware of the plans, actions, and constraints of all others
- The combined efforts of all agencies are optimized
- Duplicate efforts are reduced or eliminated, thus reducing cost and chances for frustration and conflict.

Definition

Unified Command: A unified team effort which allows all agencies with responsibility for the incident to manage the incident by establishing a common set of incident objectives and strategies without losing or abdicating agency authority, responsibility, or accountability.

To support the establishment of Unified Command with local emergency responders, transit agency Emergency Plans must:

- Facilitate the flow of information within and between all levels of the system
- Facilitate interaction and coordination among all responding agencies

3.3.1 Emergency Planning Objectives: The "6 C's"

Public safety organizations, which must constantly plan for emergency response situations, frequently use the "6 C's" tool to assist actual response efforts.

The "6 C's" tool is particularly instructive for transit personnel involved in emergency operations, since it reflects the attitudes and experiences of public safety organizations, with whom the transit agency must work and support during a critical incident.

Definition

The 6 C's: Managing emergency response can be aided by using the "6 C's" concept:

Command:	Establishing a leader to manage the incident
Contain:	Isolating the problem and protecting affected people and property
Control:	Managing the scene, response personnel, maintaining communications and containment
Coordinate:	Ensuring that all responders work together as a team
Communicate:	Ensuring that all responding personnel share information and work toward a. common goal
Critique:	Reviewing incident response and management, identifying weaknesses, and re-enforcing strengths

Using this simple tool, transit agency personnel can develop an effective response that successfully addresses key emergency response requirements.

The "6 C's" complement evolving incident management frameworks; most notably, the ICS developed initially in the early 1970s by the FIRESCOPE (Firefighting Resources of California Organized for Potential Emergencies) project in Southern California. The seven partner agencies forming FIRESCOPE are the California Department of Forestry and Fire Protection, the United States Forest Service, The Los Angeles County Fire Department, the Los Angeles City Fire Department, and the Orange, Ventura and Santa Barbara County Fire Departments. In the transit environment, ICS provides the basis for the best Emergency Plans.

3.3.2 Incident Command System (ICS)

Definition

Incident Command System: **The** nationally used standardized on-scene emergency management concept specifically designed to allow users to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries.

First envisioned as a tool for managing multi-agency responses to wildland fires, ICS has been successfully adapted to a wide range of emergency and disaster management applications. ICS is required by Federal law for response to hazardous materials situations[2] and is the mandated incident management framework in California.[3]

Many local police and fire departments use this system to guide emergency response activities. Once transit agency personnel understand ICS, they can work effectively with public safety organizations to manage and support response efforts.

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.

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 a major critical incident at a transit system, either local

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2 See 29 CFR Part 1910.120.

3 California's Standardized Emergency Management System (SEMS), codified at Section 8607(a) of the California Government Code, mandates ICS for all State agencies. All local agencies must use SEMS/ICS in emergency and disaster management to be eligible for any State reimbursement for disaster-related personnel costs.

police or fire services may ultimately assume control of the scene. However, transit police and operations personnel continue to 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.

ICS has been tried, proven, and highly refined since its conception. Its effectiveness as an emergency management system is recognized and utilized throughout the United States. Large transit operators, such as BART, NYCT, and LIRR organize all emergency activities to be incorporated into an ICS structure. Consequently, their Emergency Plans have been prepared to establish the ICS as the basis for response to all incidents.

3.3.2.1 Key ICS Terms and Concepts

ICS is constructed on management concepts that provide the basis for an effective response operation:

(1) **Unified Command Structure -- All** involved agencies contribute to the process of developing overall incident objectives, selecting strategies, joint planning of tactical activities, and integration of tactical operations.

(2) **Common Terminology** — Common titles are established and used for all organizational functions, resources, and facilities, allowing different organizations or departments to communicate using common terminology and operating procedures.

(3) **Modular Organization ~ The** emergency response structure can be established, expanded, and contracted depending on the type and size of the incident.

(4) **Integrated Communications** -- All communications at the scene are managed through a common plan, and a communications center is established for use of tactical and support resources assigned to the response.

(5) **Consolidated Action Plans - All** participating organizations (or departments) are involved in development of overall incident objectives, selection of strategies, planning and performance of tactical activities.

(6) **Manageable Span of Control - The** responsibility of each individual supervisor is limited. The span of control typically ranges from three to seven persons, depending on the type of incident, the nature of the response, and the distance involved.

(7) **Comprehensive Resource Management** -- This maximizes resource use, consolidates control of large numbers of single resources, and reduces the communication load.

The resulting ICS organizational structure consists of five major predesignated functions:

- **Command** — Overall responsibility for directing response activities, including:
  - Developing strategies
  - Managing resources
  - Planning of overall operations
- **Operations** — Responsibility for the coordinated tactical response of the incident
- **Planning/Intelligence —** Includes:
  - Ongoing situation assessment
  - Collection, evaluation, dissemination, and use of information on the incident
  - Development of incident intelligence information to assist in development of contingency plans (including status of response efforts and resources)
- **Logistics** — Entails provision of facilities, services, and materials, including transportation and fuel, shelter, personal hygiene, food, potable water, water for fire suppression, medical attention and supplies, and relief personnel
- **Finance/Administration —** Includes tracking all incident costs and evaluating the financial considerations of the incident.

Figure 2 presents a sample ICS structure as recommended by the California Governor's Office of Emergency Services.[4]

Command will always be the first function established. This function is assumed by the Incident Commander.

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4 California Office of Emergency Services. *Law Enforcement Guide for Emergency Operations,* Sacramento, CA, November 1996.

Definition

Incident Commander: The individual responsible for the command of all functions at the field response level.

The command function within ICS may be conducted in two general ways. Single command may be applied when there is no overlap of jurisdictional boundaries or when a single Incident Commander is designated by the agency with overall management responsibility for the incident. Unified Command may be applied when more than one agency shares management responsibility.

Unified Command is also used when the incident is multi-jurisdictional in nature, or when more than one individual designated by his or her jurisdiction or agency shares overall management responsibility.

Figure 3 presents the Command Staff positions that report directly to the Incident Commander, and assist him or her in managing incident response.

Any or all of the other four ICS functions may be handled by the Incident Commander and his or her Command Staff until the need arises to activate the personnel assigned to those functions. The ICS organizational structure develops in a modular fashion based upon the type and size of the incident. The organization's staff builds from the top down, expanding through the following organizational levels:

Section: ICS organizational level having functional responsibility for primary segments of incident operations, including: Operations, Planning/Intelligence, Logistics, and Finance/Administration.

Branch: ICS organizational level having functional responsibility for major segments of incident operation. The Branch level is organizationally situated between Section and Groups in Operations and Section and Units in Logistics.

Division: ICS organizational level responsible for operations within a defined geographic area or with functional responsibility. The Division level is organizationally situated below the Branch.

Group: Established to divide the incident into functional areas of operations. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division.

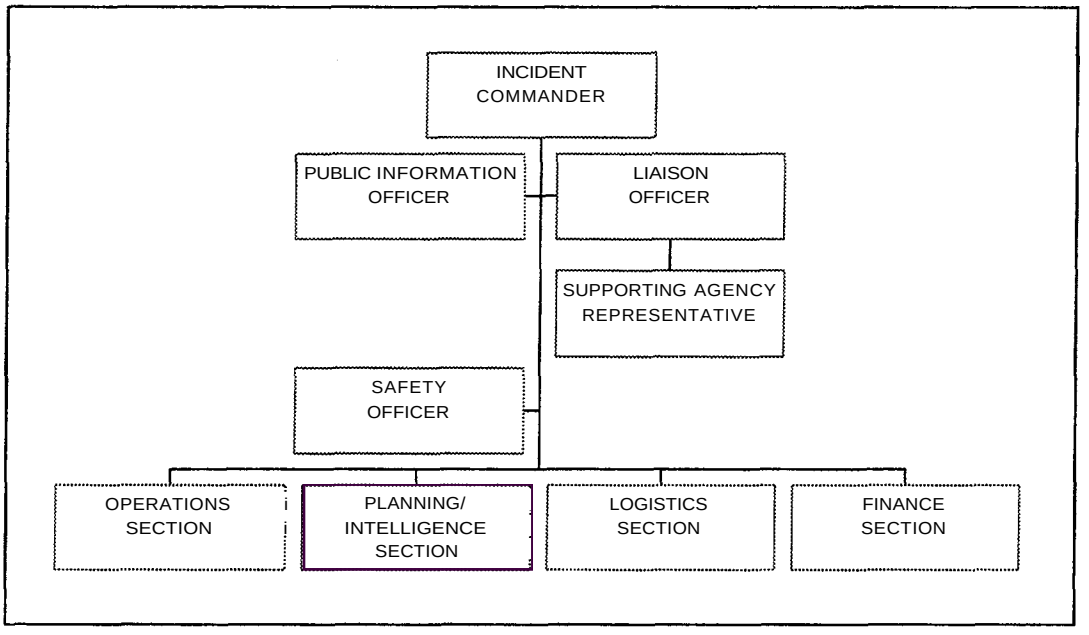


Figure 2: Law Enforcement Incident Command System (LEICS) Recommended by California Governor's Office of Emergency Services

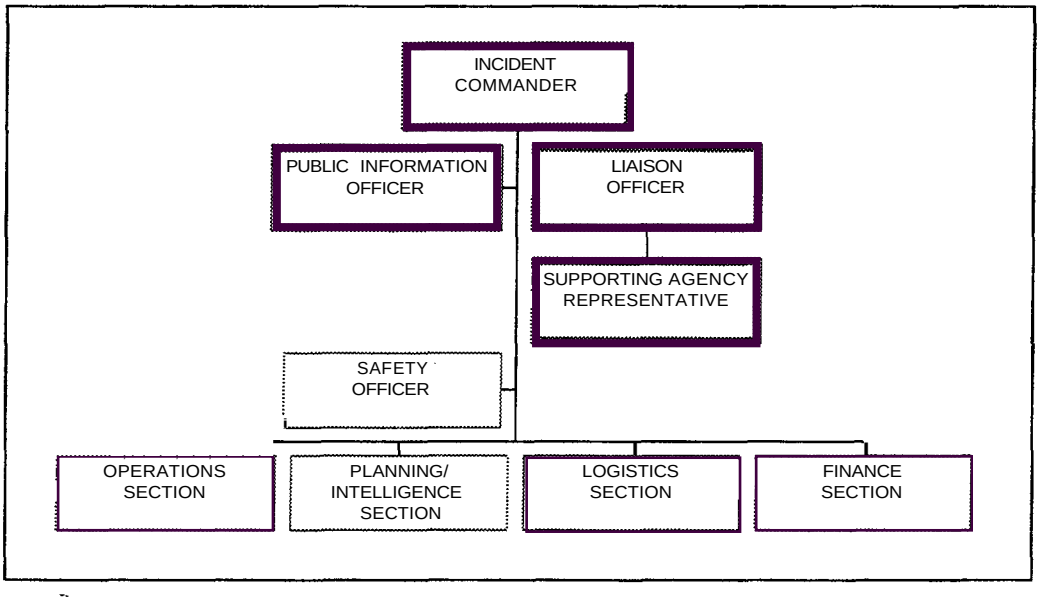


Figure 3: LEICS Command Staff

Unit: ICS organizational level having functional responsibility. Units are commonly used in incident Planning, Logistics, or Finance/Administration sections and can be used in operations for some applications. Units are also found in EOC organizations.

Figure 4, Figure 5, Figure 6, and Figure 7 illustrate organizational expansion for each ICS functional section, as recommended by the Law Enforcement Incident Command System (LEICS) developed by the California Governor's Office of Emergency Services. LEICS has been prepared to support law enforcement efforts to develop incident management frameworks, as is now required in California. *Appendix C* presents the ICS framework used by NYCT. *Appendix D* presents BART's ICS framework.

The first designation made by the Incident Commander is generally the Operations Section Chief, who may then designate Branch Supervisors with management responsibility for various functions within the section. The Branch Supervisors may then designate Team Leaders with responsibility for specific tasks. The type and number of management levels is always based on the needs of the incident. The Incident Commander may delegate functional authority, but retains ultimate responsibility for the incident.

3.3.3 When to Use ICS

Since many U.S. transit systems have little experience with major emergencies and 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. Transit personnel perform routine tasks with little interaction from outside agencies. Standard procedures and routine communication channels provide adequate information on surrounding circumstances.

During response to a critical incident, however, 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 is often required to begin operations.

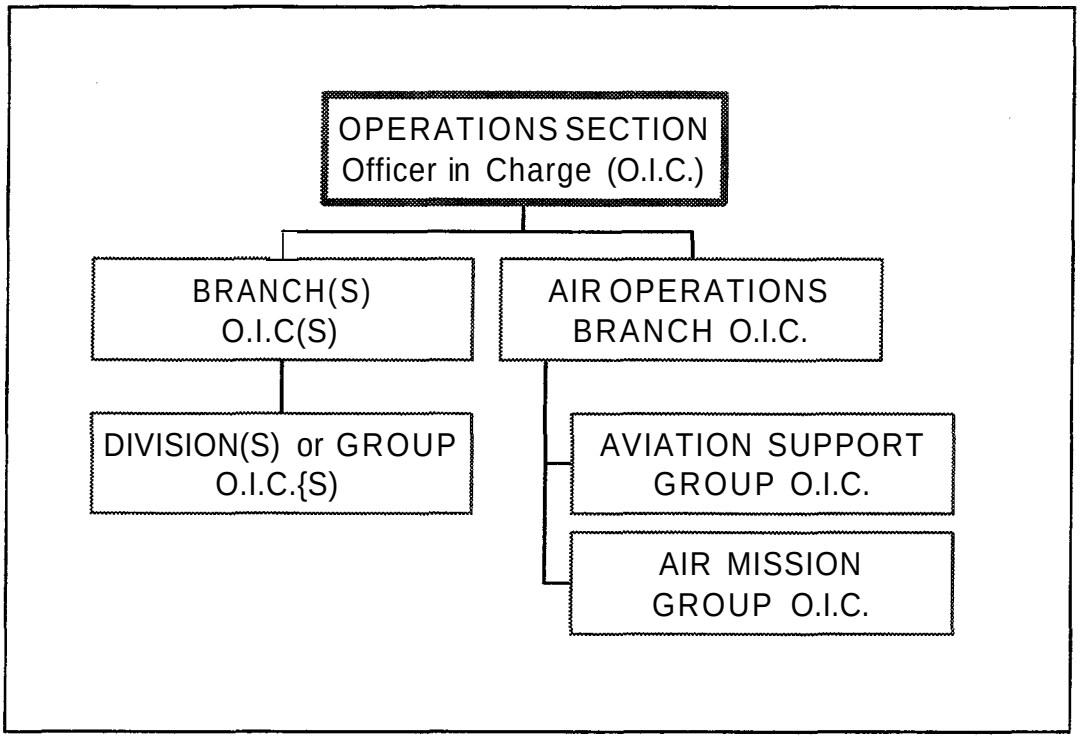


Figure 4: LEICS Operations Section

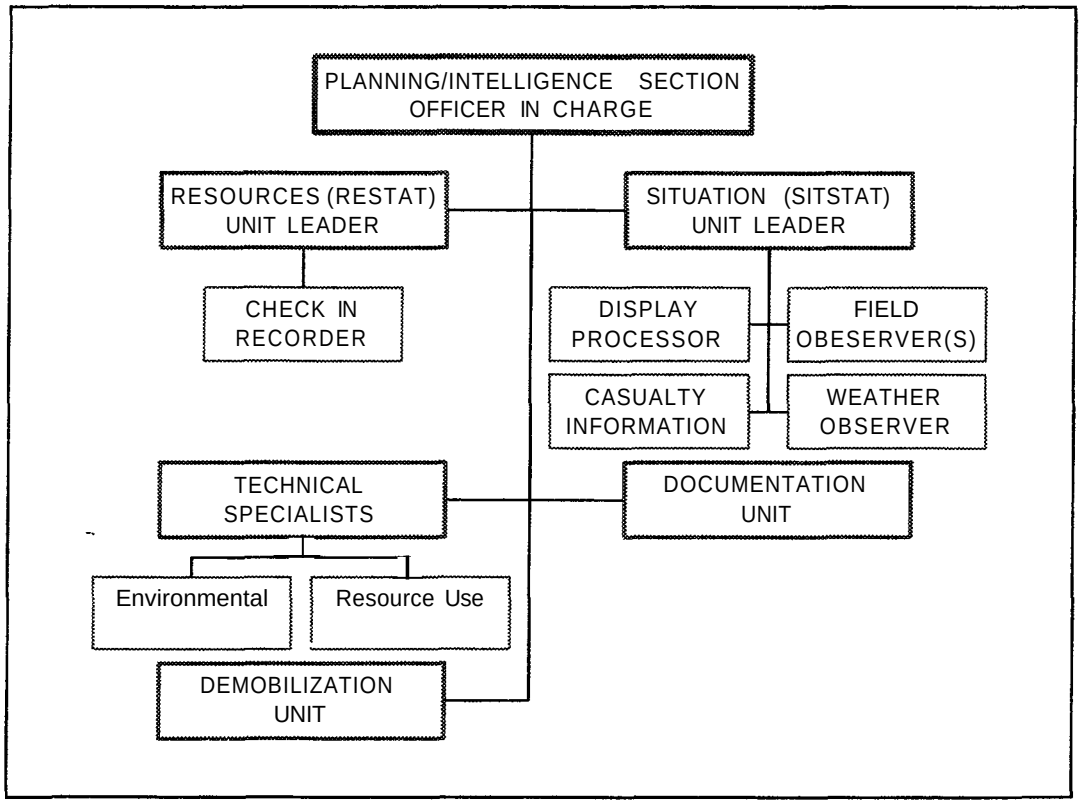


Figure 5: LEICS Planning/Intelligence Section

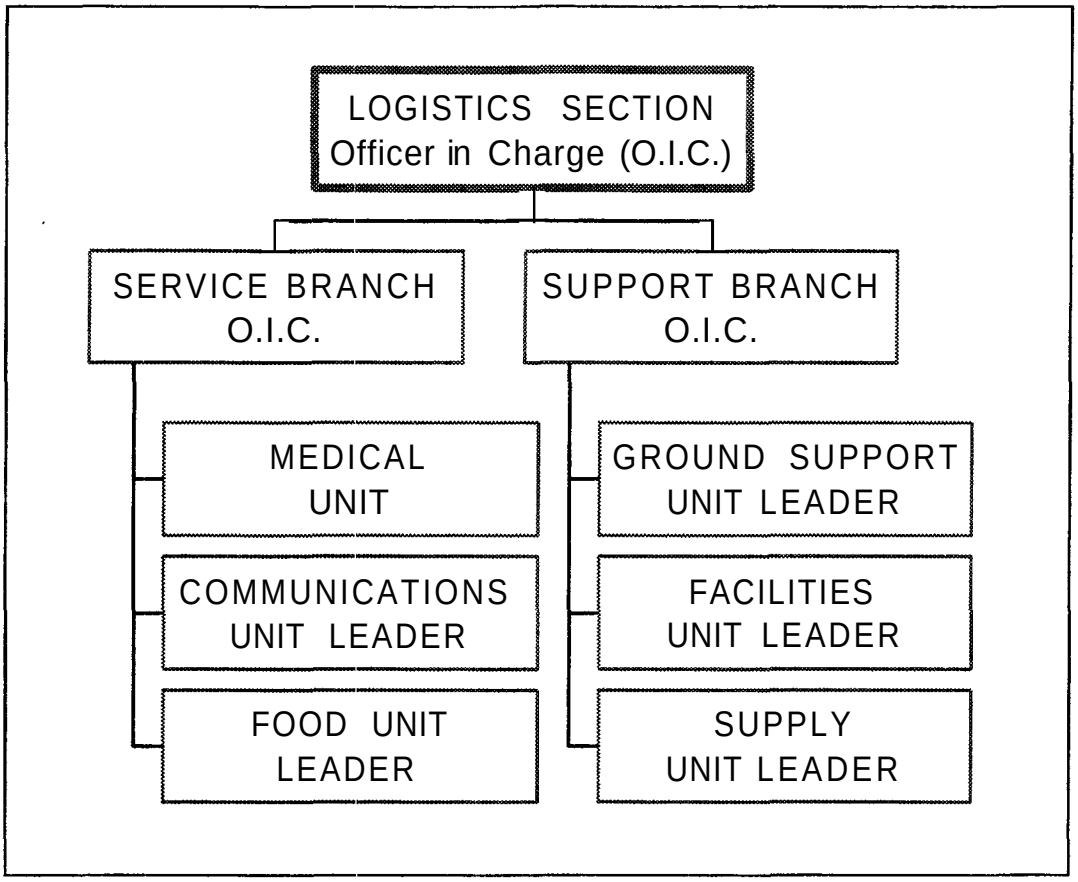


Figure 6: LEICS Logistics Section

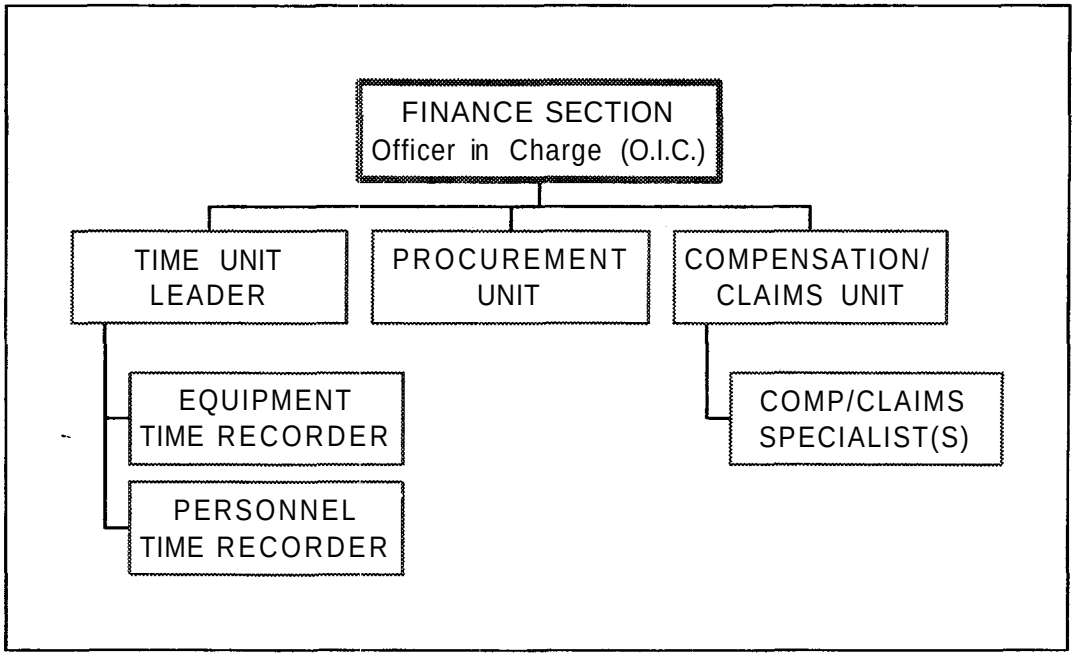


Figure 7: LEICS Finance Section

ICS provides a management framework for addressing these needs. First, needed interoperability with external responders is assured through common structure and terminology. Accurate information is sought by a distinct planning/intelligence section which assesses the situation and evaluates potential courses of action. The operations section takes the lead in developing an Incident Action Plan (IAP) to direct response efforts when routine procedures are no longer able to address the dynamics of the incident. The operations section coordinates its activities with the logistics section to obtain the equipment necessary to implement the plan.

At an incident managed according to ICS concepts, responding resources are "staged" to ensure appropriate usage. Rather than just haphazardly applying resources, the best resource for a given task is applied. Finally, the finance section tracks incident costs and expenditures to facilitate fiscal recovery. An ICS organization is structured to ensure a manageable span-of-control, allowing supervisors to keep track of response activities without becoming overwhelmed by events.

One of the dilemmas confronting transit agencies has been a "gray area" regarding when to activate an ICS organization or to continue using an existing agency emergency response system that does not incorporate ICS principles. A transit agency may be naturally reluctant to use ICS rather than its own departmental emergency configuration. This dilemma may be avoided entirely by adopting the ICS as the agency's sole emergency management organization. ICS is a management system that can be used in any emergency incident. Transit agencies benefit by routinely using ICS for managing all emergency incidents. This practice provides a seamless integration of ICS into larger emergency operations as they evolve.

A basic premise of ICS is that in each emergency incident, *regardless of its size, the principles of ICS apply.* The first on-scene emergency responder has inherent emergency management responsibility. If the responder is aware of and integrates the primary ICS functions, then that person and that department can successfully incorporate ICS in day-to-day activities. Adopting 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.

3.3.4 ICS and the Emergency Plan

Incorporating an ICS framework into an Emergency Plan can help:

- Establish the chain of command (both within the transit system and among all outside organizations)
- Define functions and responsibilities of the transit agency's departments, and identify the decision makers in each department
- Define functions and responsibilities of the outside response organizations
- Establish a system of notification
- Establish criteria for response
- Establish communication protocols and procedures (both within the transit system and with all outside organizations)
- Prescribe procedures for effective interaction with the media.

Based on Emergency Plans developed by BART, LACMTA, LIRR, and NYCT, Figure 8 presents a sample format which may be of assistance in developing an Emergency Plan in the transit environment.

3.4 Emergency Procedures

An effective Emergency Plan must be supplemented with emergency procedures. These procedures (usually developed jointly by transit operations, safety, and transit police) guide activities during response to and recovery from a critical incident, and include specific actions to be administered by train/bus operators, dispatchers, maintenance personnel, track/signal/ engineering personnel, media staff, police/ security officers, and safety personnel. Emergency procedures may address any of the following issues:

- How to report an emergency or critical incident

- 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/restore third rail or overhead catenary power
- How to assist in rescue and evacuation operations.

Transit agencies generally have these procedures readily available, often in checklist format, and provide training and drilling to reinforce them.

Procedures for notification of transit agency and public safety personnel can be particularly difficult to develop. *Appendix E* presents sample notification procedures that may be of assistance in enhancing notification capabilities.

PART 1 INTRODUCTION

1.0 Introduction

This section provides an overview of the Emergency Response Plan and may include the following subsections:

- Purpose
- Definition of Emergency
- Objectives
- Scope
- Applicability
- Testing the Plan
- Plan Revision

PART 2 GENERAL PROCEDURES

2.0 Transit Agency Response: Emergency Operations Center and Field Operations

This chapter provides an overview of transit agency's response and may include the following sections:

- Activation of the EOC and on-scene emergency response
- Levels of Emergency
- The Incident Command System (ICS)
- The Transit System's Role as Incident Commander
- The EOC Management Section
- On-scene Emergency Response
- The Operations Section
- The Logistics Section
- The Finance Section
- Emergency Operations Center — Strategic Emergency Organization Chart
- Field Operations Organization Chart

3.0 General Provisions

This chapter presents the emergency roles, responsibilities, and duties of all transit departments and relevant public safety organizations. Further, this chapter should include or reference all general procedures for reporting and managing critical incidents, including field implementation of the ICS.

Figure 8: Sample Format for Transit Agency Emergency Plan

4.0 Notification of Emergencies

This chapter specifies notification procedures necessary to report emergencies and unusual occurrences and to request appropriate public safety and governmental assistance.

PART 3 INCIDENT PROCEDURES

This part should address all potential hazards relative to the geographical area in which the transit system is located. The following chapters may be included:

- Fire/Smoke on Train or in Right-of-Way/Tunnel
- Train Derailment/Collision
- Death or Injury on the Right-of-Way
- Right-of Way Intrusion
- Hazardous and Toxic Material Spills/Leaks (Hazmat)
- Unknown Hazardous Substance
- Earthquakes
- High Velocity Winds
- Flooding
- Explosions
- Bomb Threats
- Suspicious Packages
- Hostage or Barricaded Subject

The following sections or checklists may be included as a part of each of the chapters presented above:

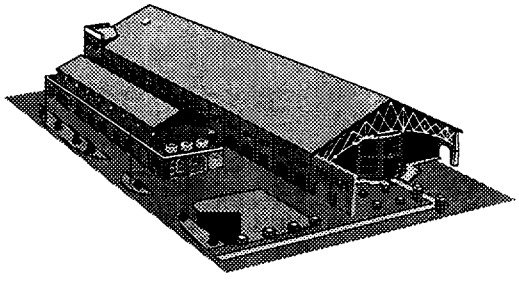
- Emergency Information Flow Chart
- Notification
- Train Controller
- Central Control Facility (CCF)
- On-Scene Coordinator (OSC)
- Transit Police
- Traction Power, Signal, and Track Maintenance Sections
- Facilities Maintenance
- Vehicle Maintenance (VM)
- Press Relations

Figure 8: Sample Format for Transit Agency Emergency Plan (Continued)

3.5 Emergency Training

The transit personnel who respond to emergency situations are the most vital element of a transit system's emergency response capability. Proper training of these and other emergency response personnel is essential. Only after adequate training can response personnel be expected to carry out an Emergency Plan in a timely and effective manner while making optimum use of available resources. Emergency training

- Identifies deficiencies in an Emergency Plan
- Develops emergency response skills in transit personnel
- Familiarizes emergency response personnel with transit authority personnel, property, and policies and procedures



- Creates a culture throughout the transit agency that:
  - Appreciates the potential devastation of emergencies and disasters
  - Understands agency responsibilities
  - Considers emergency conditions in purchasing equipment, hiring and training of transit personnel, and modification/design of transit facilities and equipment.

Training is based on the Emergency Plan and emergency procedures. Training must be documented in an Emergency Response Training Plan. This Plan should include the training organization, training requirements, courses and workshops offered in-house, courses and workshops offered externally, training milestones, a training program review, and staffing. Issues covered include the following:

- Who will be trained?
- Who will do the training?
- What training activities will be used?
- When and where will each session take place?

- How will the session be evaluated and documented?

Training Plans also identify available resources for training, including the following:

- In-house training department (transit police and transit system)
- Fire Department, Police, and EMS sponsored training
- Red Cross training
- College/University sponsored training
- Government sponsored training (FBI, BATF, FEMA, **DOT,** OSHA)
- Professional organization sponsored training (NFPA, ASSE, NSC)
- Industry training (APTA, CTAA)
- Insurance company training.

Personnel should be constantly trained and evaluated, including periodic unannounced exercises. Training aids such as checklists, notification trees, and phone numbers on cards or telephones are useful. Employees should be evaluated on their knowledge of this information. Training should include:

- Job descriptions (individual duties and task specifications)
- The transit system's policies and procedures (including the liaison relationship between the system and the community)
- Requirements of the Americans with Disabilities Act (ADA) of 1990
- Roles and responsibilities during a crisis (e.g., in San Francisco all city employees are emergency personnel and are always on call)
- Emergency procedures (evacuation, emergency access/egress, and first aid)

- Availability and use of emergency equipment
- Emergency protocols (notification, ICS, CP duties and organization, and lines of authority at an emergency scene)
- Emergency communication, both within the transit system and with each local outside emergency response

organization, including charitable organizations

- Public address system (passenger notification/updates and panic control)

- Emergency logistics (staging areas, work areas, finance team, and demobilization team)

- Vehicle safety and operating mechanisms (for rail systems this includes right-of-way safety, emergency ventilation, and power "up" and "down" procedures)

- All possible scenarios (e.g., collisions, fires, derailments, bomb threats, terrorist acts, toxic spills or leaks, storms, and floods).

Training on the above issues may be conducted by any of the following methods:

- Orientation and Education Sessions — Regularly scheduled discussion sessions to provide information, answer questions and identify needs and concerns.

- 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.

- Walk-through Drills - The emergency management group and response teams actually perform emergency response functions. This activity generally involves more people and is more thorough than a tabletop exercise.

- Functional Drills — These drills test specific functions such as medical response, emergency notifications, warning and communications procedures and equipment, though not necessarily at the same time. Personnel are asked to evaluate the systems and identify problem areas.

- Evacuation Drills — Personnel walk the evacuation route to a designated area where procedures to account for all personnel are tested. Participants are asked to make notes as they go along about items that might create potential hazards during an emergency (e.g., stairways cluttered

with debris, smoke in the hallways, etc.) Plans are modified accordingly.

- Full-scale Exercises -- A real-life emergency situation is simulated as closely as possible. This exercise involves company emergency response personnel, employees, management and community response organizations.

Figure 9 lists the objectives and descriptions of a six-phase training program developed by the LIRR police staff, in conjunction with the FTA, in response to the Collin Ferguson shooting on a crowded rush hour LIRR train on December 7, 1993. In this incident, where six patrons were killed and 17 others were injured. The program, titled "Crisis Intervention and Management Within Confined Spaces," was designed to assist and guide transit personnel in at-risk situations. While the six phases were designed as components of a complete program, each phase can be used as a stand-alone training session. Rail, bus, maritime, and air transportation services can customize each phase to meet individual agency requirements.

Appendix F presents information and checklists to support transit agency efforts to develop and conduct response exercises.

OBJECTIVES

1. Identify potential crisis situations
2. Prevent incidents or events from escalating into a full crisis
3. Diffuse the situation as much as possible by use of communication skills
4. Isolate the perpetrators
5. Stabilize the situation
6. Communicate essential and accurate information regarding an ongoing situation to control tower operators, central dispatcher, and responding police officers
7. Maintain the stabilized situation until the arrival of properly trained law enforcement and medical personnel
8. Understand the stressful effect of crisis situations on passengers and transit crew, and the value of procedures for appropriate stress reduction counseling

CONTENTS

Phase One	Identifies indicators of emotional disturbance in general terms. Verbal, non-verbal, and environmental indicators are reviewed as clues that raise the possibility that a person may be emotionally disturbed.
Phase Two	Considers four primary causes of emotional disturbance: Situational Stress, Substance Abuse, Mental Illness, and Medical Illness.
Phase Three	Identifies, in general terms, the meaning of low-risk and high-risk incidents and elicits examples from the group based on their experiences.
Phase Four	Identifies recommended methods for assessing levels of risk.
Phase Five	Identifies acceptable and standardized procedures for handling crisis situations. This phase also addresses communication between transit crew and operating personnel, use of code words or phrases, reporting procedures, and crew interaction with investigating officials (i.e., role play, emphasizing the team concept using employees).
Phase Six	Investigates the concepts of and need for crisis management involving passengers, and for stress debriefing of personnel.

Figure 9: Crisis Intervention/Management Program

4. Crisis Mitigation

This chapter presents activities performed in the transit environment during the IEMS *Mitigation* phase. Mitigation refers to activities which eliminate or reduce the chance of occurrence or which limit the effects of an emergency or disaster.

Mitigation

- Includes engineering or physical steps as well as situational or procedural measures (such as changing work practices or educating passengers on self-protection measures)

- Requires the application of special technical and managerial skills to the systematic identification and control of hazards throughout the lifecycle of a facility, vehicle, or program

- Ensures the safety and security of transit passengers and employees during day-to-day operations

- Limits the transit agency's vulnerability to the consequences of natural and human-caused crises.

Definition

Mitigation: Sustained action that reduces or eliminates long-term risk to people and property from hazards and limits the effects of hazards.

Mitigation is generally the most successful form of crisis management, though it is often the most neglected. Since mitigation measures are *proactive*, they frequently are more difficult to justify to transit management than activities which occur *after* a serious incident. Mitigation measures, however, are proven to be cost effective.

For example, based on extensive research and cost modeling, the following measures have been required by the Federal Government to prevent hazardous materials spills, and to reduce the severity of those spills that do occur:

- Speed limits
- Container structure codes
- Corporate licensing
- Restricted routing.

Such common-sense measures have reduced hazardous materials incidents, saving lives, protecting the environment, and reducing both public and private sector liability.

In many ways, mitigation is the most complex phase of crisis management. Mitigation measures are designed and preserved by transit professionals — engineers, architects, planners, managers, operators, and maintenance personnel. As such, responsibility for mitigation activities is often divided, with no clear oversight to ensure that essential mitigation measures are implemented and maintained.

For the transit Emergency Manager, many mitigation efforts may be the responsibility of other transit departments, local government, or even private vendors who service the system. This shared responsibility requires mitigation programs to provide extensive coordination and monitoring.

4.1 Agency Design Criteria

One way to ensure that mitigation measures are incorporated into transit agency design, construction, and maintenance is to develop **Agency Design Criteria** which establish minimum acceptable levels for health and industrial safety, and which provide protection from fire, smoke, explosion, natural disasters, and public panic/civil disturbances.

Definition

Agency Design Criteria: Provide minimum safety and security requirements for the design of new facilities, the renovation of existing facilities, and the maintenance of existing systems.

Agency Design Criteria are developed to establish safety criteria for the control of transit facilities and vehicles. These criteria provide general guidance, and identify the major needs of fire and life safety in the following areas:

- Station facilities
- Vehicles
- Guideway (train right-of-way) facilities
- Vehicle yard and maintenance facilities
- Communications
- Power

These criteria do not address every contingency or design every feature in

advance; rather, they provide design minimums. During an actual design, construction, or renovation project, these criteria provide the baseline for transit facility/vehicle fire and life safety features and capabilities. More detailed requirements are provided by specification and standard drawings during final design phases for a specific project.

Developing Agency Design Criteria requires support from all transit departments. Coordinating departmental cooperation and participation can be challenging. The Emergency Manager's principal tool for establishing these criteria is the transit agency's need to comply with relevant local, State, and Federal codes, standards, and regulations.

Agency Design Criteria should:

- Provide minimum safety requirements for the:
  - Design of transit facilities
  - Renovation of transit facilities
  - Purchase of transit vehicles
- Reflect applicable codes and regulations, augmented by engineering technology and industry standards to optimize mitigation features and capabilities
- Ensure that, during the preliminary engineering and final design stages, safety can be achieved by eliminating, minimizing, or controlling hazards through analysis, review, and design selection.

Transit agencies must comply with local ordinances; State and Federal regulations; oversight agency rules and guidelines; and uniform building, fire, mechanical, and plumbing codes. Further, to ensure effective mitigation practices, many transit systems adopt recommendations and standards from organizations such as the:

- American National Standard Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- Institute of Electrical and Electronics Engineers (IEEE)
- Illuminating Engineering Society (IES)
- National Electrical Code (NEC)
- National Electrical Manufacturers Associations (NEMA)
- National Fire Protection Association (NFPA)

- Underwriters' Laboratory (UL)

For example, *NFPA 130: Fixed Guideway Transit Systems* provides recommended standards for fire safety in the transit environment. This standard is used by most major rail transit systems.

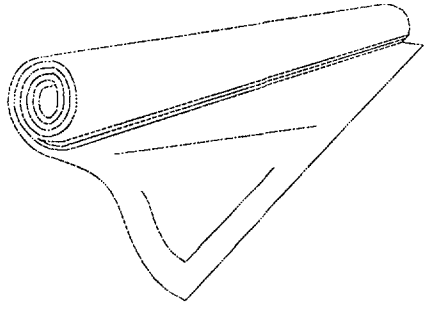
Transit agency compliance with these regulations and standards is essential. Such compliance can also be difficult to achieve, as multiple departments, contractors, and personnel have responsibility for implementation and certification of different codes and regulations. Agency Design Criteria centralize all mitigation requirements in one document, and assign all compliance responsibilities to one transit department.

Many transit agencies identify and evaluate both regulatory compliance issues and adoption of industry standards as part of existing system safety and security programs:

- **Transit System Safety Program** Identifies the *hazards* of a system and imposes requirements and controls to prevent mishaps by eliminating hazards or reducing associated risks to a level that is acceptable to management.

- **Transit System Security Program** Identifies the *threats and vulnerabilities* of a system and imposes requirements and controls to prevent intentional human injury and property damage by eliminating or reducing associated risks to a level that is acceptable to management.

Using system safety and security analytical techniques, transit engineers and managers evaluate existing agency practices; local, State, and Federal regulations; and industry recommended codes and standards to ensure that the safe and reliable movement of passengers is the primary consideration in the design, renovation, and maintenance of transit facilities and vehicles. To achieve this objective, it is necessary to assimilate the diverse local and state codes, and specific recommendations and standards into unified Agency Design Criteria.



4.2 Establish an Agency Design Criteria Committee

To manage mitigation efforts, many transit agencies have established an Agency Design Criteria Committee. This Committee may be pre-existing as part of the corporate safety structure, an internal planning organization designed to address ongoing safety issues, or it may be created specifically to address fire and life safety. In some cases, inter-organizational committees have been used to take advantage of personnel resources from throughout the transit system.

General observations for establishing the Agency Design Criteria Committee include the following:

- The size of the Committee depends on the transit system's operations, requirements, and resources (most agencies prefer using a group to encourage participation, investment in the process, visibility of the planning process, and a broad perspective on the issues).

- Most agencies involve planning team members and subject matter experts serving in an advisory capacity.

- Input may be obtained from all functional areas, including:
  - Claims/risk management
  - Dispatch
  - Engineering
  - Finance
  - Human resources
  - Legal
  - Line supervisors
  - Maintenance
  - Management staff
  - Operations
  - Public relations
  - Safety, health, and environmental affairs
  - Sales and marketing
  - Training

- Transit personnel have found it useful to have members appointed to the Committee in writing by upper management with job descriptions reflecting this assignment.

- At many agencies, the Chief Executive issues a Mission Statement to demonstrate the system's commitment to establishing appropriate Agency Design Criteria. This statement typically

  - Defines the purpose of the Agency Design Criteria Committee
  - Defines the authority and structure of the Committee

Establishes a work schedule, planning deadlines, and a budget.

4.3 Identify Codes and Standards for Conformance

Generally, the Agency Design Criteria Committee's first activity is to identify all Federal, State, and local codes and standards applicable to the transit agency. Since the transit agency must comply with a variety of different regulations, the process of identifying them may require input from each department.

Once these codes and standards have been identified, the Committee determines how to meet the requirements to maximize mitigation capabilities while, at the same time, remaining cost effective. An additional task is to identify standards and codes which may not be required, but which may improve the transit agency's mitigation capabilities, and therefore, should be incorporated into the Agency Design Criteria. (See Figure 10.)

To assess the value of competing design criteria, and to determine the utility of incorporating new design criteria, the Committee must perform risk assessment and resolution activities as described in Chapter 2 of these Guidelines.

To ensure compliance with the transit system's Agency Design Criteria, a review process should be established. Primary responsibility for implementing the criteria, however, may still reside with the department or organization having responsibility for the design or document being prepared. Table 4 presents mitigation measures typically used in the transit environment to address hazards.

Station Design Considerations

- Access for Persons with Disabilities
- Basic Construction of Stations
  - Fire Enclosure Requirements
  - Fire Separations of Public Occupancy Areas
  - Intrusion
  - Protection from Flammable and Combustible Liquid
  - Protection of Openings
- Concession Spaces
- Emergency Access to Stations
- Emergency Supply Storage
- Exiting Capacity
- Fare Collection
- Manual Pull Box
- Materials Selection
- Means of Egress
- Occupancy Load
- Panic Hardware
- Parking Lots
- Platforms
- Station Emergency Lighting
- Station Architectural Features
- Station Utility and Equipment Rooms
- Station Agent Booths
- Station Fire Protection Systems
- Ventilation of Ancillary Areas
- Vertical Travel Elements
- Wiring Requirements

Figure 10: Station Areas Covered in Agency Design Criteria

4.4 Social Mitigation

Passenger awareness programs, education on self-protective measures for both passengers and employees, and other situational or procedural measures are known as **social mitigation.** Social mitigation efforts help to limit the impact of emergencies and disasters by allowing passengers and personnel to take steps to protect themselves and minimize the negative consequences of a critical incident. Such social mitigation efforts complement engineering or physical steps toward mitigation and should be included in a system's emergency management program.

Emphasis on social mitigation is largely the result of natural disaster prevention and mitigation programs developed during the United Nation's Decade of Natural Disaster Prevention. While not widely implemented in the transit setting, such efforts are gaining acceptance in response to the threat of intentional disaster due to terrorist attacks against transit systems abroad.

At these systems, social mitigation efforts include advice to passengers on the management of suspicious packages and persons. Together with physical mitigation measures, social mitigation promises to be an effective way of keeping emergencies from becoming disasters.

Table 4: Mitigation Measures to Address Typical Hazards

	Examples	Control Methods
Basic Design Deficiencies	Sharp corners Instability Excessive weight Inadequate clearance Lack of accessibility	Improve design
Inherent Hazards	Mechanical (rotating equipment, vibration) Electrical Explosives Flammable gases or liquids Toxic substances Acceleration (flying objects) Deceleration (falling objects) Temperature	*Safety Devices:* - Separation - Barriers (guards) - Interlocks (deactivation) - Pressure release - Temperature sensor (fuse) *WarningDevices:* - Visual (color, shape, signs, light) - Auditory (bells) - Tactile (shape, texture) - Olfactory (odors) - Gustatory (taste) *Procedures/Training:* - Safety - Backout/recovery - Protective equipment - Emergency
Malfunctions	Structural failure Mechanical failure Power failure Electrical failure	Fail-safe design *Higher safety margin:* - Reduced stress - Increased strength - Redundant circuitry or equipment Timed replacement Safety devices Warning devices Procedures/training
Maintenance Hazards	Improper connections Component failures Equipment damage Operational delay	Simplified design Fail-safe design Easy access to equipment Elimination of need for special tools or equipment Guards for moving parts Interlocks *Warningdevices:* - Labels/Signs - Bells - Chimes - Lights Procedures/Training Housekeeping
Environmental Hazards	Heat Cold Dryness Wetness Slipperiness Glare Darkness Earthquake Gas/toxic fumes	Design that increases resistance to temperature changes, dryness, and wetness Fail-safe design Heating/cooling Insulation Restricted access Temperature sensors Warning devices Procedures/training
Human Factors Concerns	Stress Noise Light Temp. Air Humidity Vibration Errors of omission Errors of commission Non-recognition of hazards Energy sources	Ergonomic design Simplified equipment Improved installation Redundant design Safety devices for inherent hazards Warning devices for inherent hazards Procedures/training for inherent hazards

5. Response

Responding to an emergency or disaster in any environment is a challenge. The transit environment is often characterized by physical and operational features that increase this challenge, including:

- Accommodating many people in a relatively small area
- Operating above and below grade, enhancing accessibility problems
- Transporting passengers through urban and suburban areas, crossing jurisdictional lines of various support agencies resulting in coordination difficulties
- Operating systems and associated equipment presenting special hazards including:
  - High voltage (electrified third rail or overhead catenary wire on some systems)
  - Shared use of rail transit tracks with rail freight trains carrying hazardous materials
  - Special fuels on buses, such as Liquefied Natural Gas (LNG) or Compressed Natural Gas (CNG).

This chapter presents the tools and procedures used by public safety organizations and transit agencies to manage critical incident response, including the following:

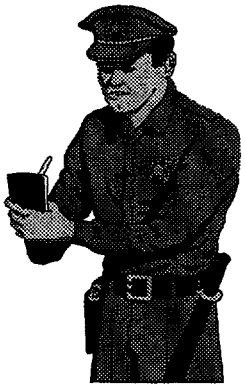
- Initial response
- Command Post (CP) or Field Command Post (FCP)
- Activating the ICS
- Emergency Operations Center (EOC)
- Incident Action Plans (IAP)
- Incident objectives
- Managing press/media complications
- Communication and reassurance
- Integrating response and recovery.

5.1 Initial Response

When a critical incident occurs at a transit agency, many people and agencies may be called upon to perform the individual actions required to resolve the incident. First

responders from a number of disciplines may initiate this process. At a transit system, first responders may include:

- Transit police
- Transit operations and safety personnel
- Local police
- Fire department
- EMS.



First responders activate the Emergency Plan, ICS, and emergency procedures described in Chapter 3. First responders have a responsibility to establish on-scene command,[5] formulate and broadcast a situation assessment, set up a CP, request necessary personnel and equipment, and provide a staging area for responding personnel. To accomplish these tasks, the first responder may assume command responsibility, appoint others to control activities, assign missions, gather intelligence, and delegate other tasks as necessary to establish control until relieved by an officer of higher rank.

A *Situation Assessment,* or "size up," is perhaps the most important component of initial response. The Situation Assessment includes information developed by the first person at the scene of an emergency and is transmitted to the communications center, and then conveyed to other agency elements concerned with the control of the event. Situation Assessments should be updated as the event changes and control measures are implemented to return the situation to normal.

In the transit environment, a Situation Assessment may be provided by a train operator, bus operator, station manager, or transit police personnel. Generally, the Situation Assessment is transmitted via the transit agency radio system to the transit Control Center, which manages agency communications. During the early stages of an emergency situation, the initial reporting person is the Control Center's only communication link with the emergency scene. Figure 11 presents information generally included in a Situation Assessment.

[5] Alternatively, the first-in unit may exercise the option to pass command on to the next-in unit or supervisor and take initial protective or lifesaving options. In either event, the first public safety or transit person on-scene must size up the incident and initiate a comprehensive response.

5.2 Command Post

Another essential function performed by the first responder is the designation of a Command Post (CP). The CP is the location at which the primary incident command functions are performed in order to:

- Establish a facility strategically located to command the overall operation of the emergency
- Maintain centralized and systematized communication
- Monitor and regulate personnel and equipment needs
- Acquire, analyze, and properly distribute intelligence and other relevant information

Critical Information from First Responders

- Type of emergency
  - Fire
  - Accident/derailment/collision
  - Death or injury in the right-of-way
  - Right-of-way intrusion
  - Hazardous materials spill/leak
  - Earthquake
  - Tornado
  - High velocity winds
  - Flooding
  - Explosion
  - Hostage/barricade situation
  - Bomb threat
- Location of emergency
  - Milepost location and track designation
  - Street address
- Type of structure/vehicle involved
  - Train serial number and length
  - Bus number and route
  - Station and exact location in station
- Size of area involved
- Number of additional transit personnel/transit police officers or other personnel required
- Assistance required from external agencies (e.g., ambulance, fire, public utility)
- Number and type of casualties/injuries

Figure 11: Situation Assessment

- Coordinate activities with associated agencies.

The CP should be located near, but *not within* the area of the incident. 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. Moving the CP disrupts command, control, and communications while the CP is disassembled, relocated, and subsequently reassembled.

Other CP selection factors include:

- Accessibility to responding personnel
- Ability to defend against crowds, snipers, fire bombs, etc.
- Sufficient space for responding personnel and equipment
- Accessibility to restroom facilities
- Communication capabilities or access to telephone, radio, television, microwave, etc.
- Proximity to electricity and water service
- Availability of structures for personnel briefing and protection against weather
- Storage space and area for vehicles

Potential CP sites include:

- Schools/universities
- Parks
- Large parking lots
- Water/power facilities
- Churches.

When selecting the CP, the first responder should be aware that sufficient space must be available nearby to locate both individual CPs for other responding agencies (e.g., fire department, EMS, etc.) and individual agency staging areas. To establish the CP, the first responder should perform the following activities:

- Notify communications of CP location
- Identify safe routes to the CP
- Identify radio frequencies to be used
- Identify and isolate CP area with ropes or barrier tape

Once the CP has been established, response personnel can direct attention to control measures related to the event. Figure 12 identifies some of these activities.

Incident Management -- Critical Measures

- Establishing a journal/log for recording major activities
- Establishing a communication link with the communications center
- Communicating with passengers
- Briefing all involved response personnel
- Requesting additional personnel and equipment resources needed to control the event
- Assigning staff to critical ICS functions
  - Planning/Intelligence
  - Field operations
  - Logistics
  - Finance
  - Command staff functions: liaison, safety, and public information
- Developing and implementing control plans which may include:
  - Protecting the emergency scene
    - Ventilation of fire scenes
    - Restricting trains/other vehicles from scene
    - Removal/restoration of third rail power
    - Perimeter control provisions
    - Interior patrol provisions
  - Initiating evacuation procedures
    - Locating a safe place (street or curbside, station platform, maintenance-of-way access point, trackage at-grade, aerial structure or underground between stations)
  - Coordinating (liaison) with other emergency agencies
  - Developing traffic control plans
  - Mobilizing on-duty personnel
  - Planning for mutual aid contingencies
- Identifying staging area to place resources for tactical assignment and communicating location to the Control Center
- Identifying the area in which to coordinate news media activities
- Notifying other agencies
  - Hospitals
  - Public agencies
  - Other jurisdictions requiring information.

Figure 12: Control Measures for Critical Incidents

An agency's role at the scene of disasters and other emergencies may be to support the local fire department or other emergency response force. The first responder or initial response organization can assist by providing the following:

- A liaison officer to the Fire Commander or other Command Staff
- Control of emergency vehicle access routes
- Perimeter traffic control
- Evacuation, if necessary.

Figure 13 presents a checklist used by NYCT to guide first responder actions at all critical incidents. Such a checklist provides an easy method for focusing first response activities.

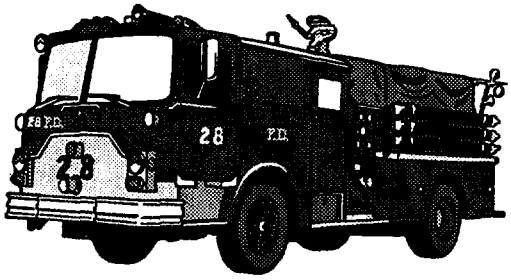
New York City Transit (NYCT)
Critical Incident Management
Memo Book Insert:
Critical Tasks

- Assess Nature of Incident
  - Exact Location
  - Extent of Casualties and Damage
  - Most Limiting Factors (What must be done to bring the incident under control?)
  - Are There 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 CPs 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

Figure 13: NYCT Critical Incident Management Checklist

5.3 Activating the ICS

For many agencies, whether they are public safety organizations or transit operations, a key element of first response is activating the ICS. For police and fire departments, the first responder to the scene generally becomes the Incident Commander. For transit agencies without police departments, the Incident Commander often is the most senior person on the scene in the Operations Department.



When local police or fire department personnel arrive, they typically take control over management of the incident. The lead transit agency representative at the scene is generally known as the On-Scene Coordinator (OSC). The transit agency OSC can form part of the incident's Unified Command Structure (UCS) or act as agency representative to the Incident Commander (1C). In either event, the OSC remains in charge of the transit agency's field response effort.

As previously discussed, the ICS organization expands based on the complexity of the incident and management needs. The full ICS organization is rarely needed. Additional management levels are staffed when:

- Span of control is too great
- Activities are particularly complex or hazardous
- Activities in any one area exceed the manager's ability to effectively retain control.

Examples

- At NYCT the highest ranking New York City Police Officer at the scene is the Incident Commander.
- At LIRR the first police officer to arrive at a crime scene takes charge to protect and collect evidence. The first fire department officer to arrive at an LIRR emergency scene is in charge until the fire is out. Command is transferred to a higher ranking officer at such a time as is appropriate during the response effort.

The ICS organization builds from the top down, with responsibility placed initially with the Incident Commander. If that individual can simultaneously manage all major functional areas, no further expansion of the organization is required; however, if the need exists, four separate sections can be developed, and each may have several branches, as described in Chapter 3.

5.4 Emergency Operations Center (EOC)

In large-scale events, activating the ICS frequently triggers the activation of the transit agency (and/or jurisdictional) EOC. The EOC serves as the focal point for:

- Crisis decision making
- Coordination with other levels of government
- Resource allocation between the incident scene and other impacted areas (or among separate incidents occurring within the same period of time).

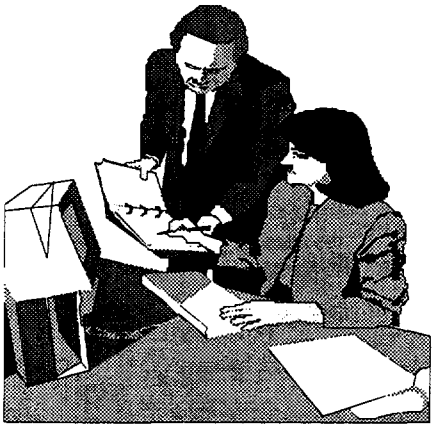
An EOC supports the CP, while the CP exercises command and control of all operations at the incident. Generally, transit agency EOCs can only be activated by the General Manager or senior personnel from the General Manager's Office, Operations, Safety, or the Transit Police.

EOCs are mechanisms for enhancing the management of emergencies and disasters at a strategic or systemwide (i.e., throughout a jurisdiction as a whole) level. EOCs typically are charged with overall policy and resource coordination in events impacting an entire jurisdiction or transit system.

As with field responses, EOCs rely upon ICS organizational and management concepts. EOC functions include:

- Managing information
- Collecting system status data
- Verifying damage assessment information
- Determining the availability of mutual aid resources and logistical and material support on behalf of the CP
- Transmitting information to other levels of government (e.g., from a transit authority to a county or state)

- Expediting recovery and restoration efforts.



5.5 Incident Action Plan

After initial response, the complex work of comprehensive incident "management" begins. During this "operational period," the Incident Commander and his or her staff develop an Incident Action Plan (IAP) for directing response activities.

The IAP:

- Establishes the Incident Objectives and describes the strategy, tactics, resources, and other support necessary to achieve these objectives

- Identifies the Incident Commander's intent and concept of operations

- Acts as a tool for ensuring uniformity of response and inter-agency coordination.

A written IAP, or operations plan, is essential in complex or large-scale events involving multiple agencies and disciplines.

Effective incident response requires integrated operations among all responders. Interagency coordination is an essential element of integrated response. Nevertheless, coordination difficulties are common in virtually all responses to complex emergencies and disasters. Planning helps to ensure coordination and effective response. Development of an IAP based on a realistic awareness of the current situation and available resources is an essential element of ongoing planning.

Collective objectives, goals and strategies should be communicated in the written IAP and shared with responders from all agencies. Though not always developed in a written format for small incidents of short duration, a written IAP is essential when:

- Multiple agencies are involved in incident response operations

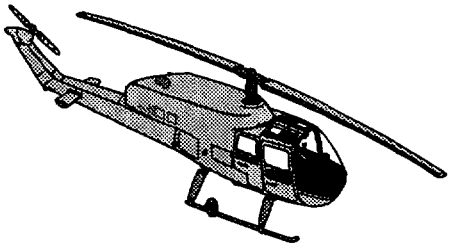
- Multiple jurisdictions or disciplines (i.e., fire, police, transit) are involved

- The incident requires deployment of personnel and/or equipment over more than one regular work shift.

An effective IAP should cover all incident activities. The Incident Commander (or Unified Command) establishes goals and determines strategies for the incident. When a Unified Command is activated, the incident objectives must adequately reflect the policy needs of all participating agencies. Information contained in the IAP includesthefollowing:[6]

- **Situation** — Describe in detail (what happened; what the threat or risk to responders is; which agencies are responding; and what the role of each responding agency is).

- **Mission** — State clearly and concisely so all responders are familiar with the goals and objectives. (Detail the concept of the operation and operational concerns; how to achieve the mission and reach the desired end; and address issues that may complicate execution)



- **Logistics** — Resource awareness is critical. (Identify and catalog a wide range of necessary equipment and providers to ensure effective response. Additional logistical issues include food, lodging, fuel, 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 supplies)

- **Command and Signals —** Specify the Incident Commander, command pathways, and key decision makers. Address communications issues such as radio frequency allocation.

Checklists, forms, and matrices can be very helpful in organizing the information necessary to develop an effective IAP. Transit and municipal police use these tools to support the following activities:

- Preparation of incident briefings

- Development and documentation of incident objectives

6 The traditional military model for incident action plans is known as an operations order. Operations orders typically have five segments: Situation, Mission, Execution, Administrative/Logistics, and Command/Signals. California law enforcement agencies have adopted this model to contain Situation, Mission, Concept of Operation, Execution, and Administrative Instructions.

- Development and documentation of operational activities, strategies, and tactics

- Tracking personnel, arrival times, and agencies represented at the scene

- Tracking incident activities and chronology

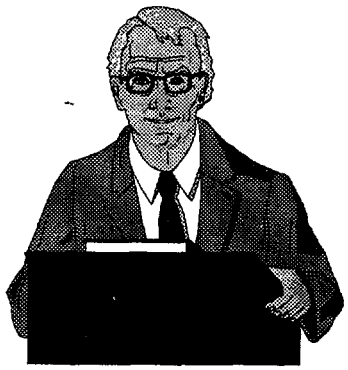
- Documentation of organization assignments and unit assignments

- Preparation of an organizational chart for the incident

- Preparation of a public information summary/incident status

- Ongoing incident planning

Appendix G presents checklists developed by the California Governor's Office of Emergency Services to support incident management by multiple emergency responders.



5.6 Managing Press/Media Complications

Emergencies and disasters generate high levels of media interest. A media relations specialist [typically known as a Public Information Officer (PIO)], or group, should be designated. The PIO should be the only transit system personnel to release, or approve the release of, information to the public or the news media during a crisis. This practice helps to ensure the dissemination of accurate information.

A PIO should always be available to respond to the emergency scene to greet, brief, and answer questions from reporters. All other responders at the scene should be instructed not to comment to reporters prior to coordinating their actions with the PIO.

The media can contribute to the emergency by:

- Notifying the public about the crisis and providing updates as the event progresses

- Directing people to the appropriate emergency shelters

- Serving as an information conduit and as a public watchdog

- Maintaining public confidence and reducing panic

Without proper integration into operations, the media can complicate emergency response by:

- Disseminating inaccurate service information
- Disseminating misleading or inflammatory information about the causes of the emergency and about the response
- Presenting information in a way that undermines public confidence in the transit system.

Appendix H presents information useful for supporting media management initiatives.

5.7 Communication and Reassurance

All transit patrons (whether on board or waiting for a vehicle) who are affected by an emergency should be informed about the status of operations. Transit personnel should create and maintain a constant presence, both while the crowd is waiting and during evacuations. An official presence to inform people about the immediate emergency plans helps to calm people and allay fears.

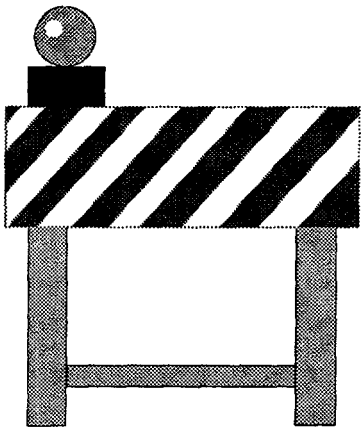
Techniques for communicating with and managing crowds should be included in the transit system's emergency procedures. Implementation of these techniques should be included in transit personnel training and inter-organizational exercises.

Recommendations for communicating with and managing crowds include:

- Using pre-recorded announcements
- Updating passengers on all developments
- Preparing scripts in advance for each employee applicable to various scenarios

- Identifying and strategically positioning crowd control personnel according to rehearsed plans

- Directing crowd control personnel to maintain constant visual surveillance of the crowd, provide constant direction, and set limits.



5.8 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 gather information on situation status, resource status, and damage assessment to formulate a plan for recovery and restoration of service.

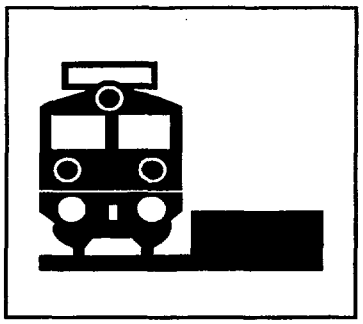
6. Recovery

6.1 Restoring Transit Service

Recovery initiatives, which begin during the response phase, become the primary transit activity once the incident scene has been successfully stabilized. During this time, control over the scene may be returned to the transit agency, and all transit agency efforts can be focused on repairing the damage and re-establishing service.

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 emergency medical activities and evacuation be completed?
- When will the coroner or medical examiner clear the scene?
- When will investigative efforts and regufatory inquiries be completed?
- Are system facilities and equipment structurally sound to resume operations?



Prudent and efficient restoration of service requires preparation—documented procedures that are fully understood by transit personnel. Eight basic steps for restoring normal transit operations are:

(1) Determine critical services and prioritize needs

(2) Assess damage and determine required resources

(3) Communicate to appropriate authorities

(4) Implement critical services

(5) Assess feasibility of restoring normal operations

(6) Perform trial runs of normal operations

(7) Communicate with employees

(8) Resume all scheduled service on all routes

To quickly perform these steps, the transit agency should have a Recovery Management Plan that requires:

- Effective standard terminology understood by personnel from different backgrounds (e.g., con-trollers and maintenance personnel) to ensure clear, efficient communication

- Well-rehearsed plans for removing debris and other obstacles from roadways and railways

- Well-rehearsed plans for implementing bus bridges for disabled rail transportation, for implementing single-track rail operations, and for rerouting buses

- A readily available contingency fleet of vehicles

- A viable system for communicating with passengers.

Examples

- Well-rehearsed plans enabled Port Authority Trans-Hudson (PATH) rail transit to recover quickly following the World Trade Center bombing in 1993 when the PATH station and adjacent track were severely damaged. Crews curtained off the damage and worked around the clock to remove debris and restore service.

- Use of volunteers has proven effective for removing fallen trees and other debris from railways and roadways following storms. LIRR used volunteers to remove trees and debris caused by two major hurricanes during the past several years, enabling LIRR to resume service quickly each time.

- Several rail transit systems have used transit buses to provide substitute transportation when rail operations are interrupted, thereby integrating the rail and bus transportation. Long Island Bus provided substitute transportation for LIRR lines that passed through or near the Long Island fires in 1994, and Sacramento Regional Transit District (SRTD) buses are routinely used as a bridge for the SRTD light rail system.

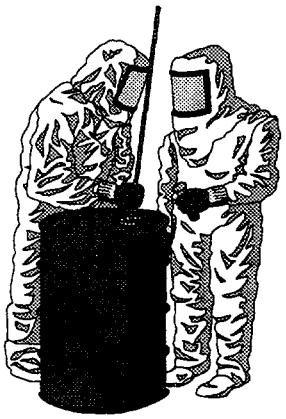
- The integration function at NJT is quite extensive. It includes a routine for providing additional buses to stations when another transit mode's services are interrupted. The most frequent and complex site is the Hoboken Multimodal Terminal that includes buses, ferries, NJT rail, and PATH.

When the transit agency operating a rail system does not provide bus transit service, the system must enter into agreements with the various bus service providers in its operating area to arrange for bus bridges. In addition, reducing rail operations to single-track service during a crisis requires ready availability of additional controllers to prevent multiple trains on temporary single-track territory. It also requires backup communications and the capability to control train movements manually during a communications failure.

6.2 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 must 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.

After normal service is restored, the transit system must assess the cost of permanently disposing of debris and of repairing or replacing damaged equipment, facilities, and structures. The possibility of salvaging equipment and materials that cannot be repaired should be investigated. If the amount of damage and remaining debris is extensive, the work may have to be prioritized and scheduled in increments. Insurance agents and government aid agencies should be contacted. Repair of bus routes may be the responsibility of local and/or state highway and public works departments.



6.3 Incident Debriefing and After-Action Reports

The response to every significant accident or disruption of service should also be evaluated to identify strengths and deficiencies. All personnel who participate in the response should be debriefed after responding to each emergency.

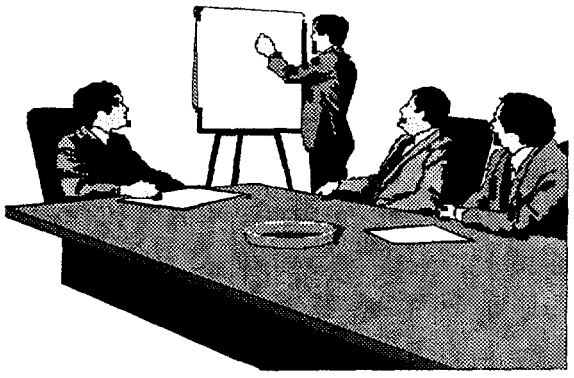
After-Action Reports (AARs) are important for managing critical incidents and for restoring service. Careful capture and documentation of response activities are important aspects of major incident response and should be conducted at the end of each shift as well as when the incident is over. Major incident debriefings and AARs are valuable since every complex incident is different in terms of behavior, staffing, and mobilization. Incident debriefings and AARs 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
- 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 debriefing enables vital information to be collected without being overlooked. These informal debriefings should be followed by a formal interagency AAR within a couple of weeks.

6.4 Critical Incident Stress Issues

Facing widespread devastation challenges even the most resolute and experienced emergency responder. Unless the psychological impact of such events is recognized and easily 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 this stress has led to the development of the Critical Incident Stress Debriefing (CISD).



The transit system should maintain a CISD program that provides access to mental health professionals and/or peer counseling sessions for employees who witness severe injuries and/or fatalities. These services should also be made available to outside emergency response personnel.

If the outside agencies do not provide these services, the transit system may be able to include them in its program or facilitate a separate or joint program. A number of public and private mental health programs specialize in post-traumatic stress management.

7. Intentional Acts: Addressing 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 modern terrorism, public transportation is particularly susceptible. The vulnerability of transit systems to acts of intentional violence has stimulated the need to incorporate terrorism response planning into overall transit-emergency preparedness efforts. Though the targeting of bus and rail systems by terrorists worldwide has increased, since 1991 (public transportation has been the target of 20 to 35 percent of worldwide terrorist attacks),[7] acts of intentional violence are not new to transit systems. Perhaps the earliest recorded incident of transit terrorism occurred on the London Underground on October 30, 1881. This act, a bombing between Charing Cross and Westminister Station, killed 62 people.[8]

While U.S. transit systems have thus far not been the focus of political terrorism, they have been the targets of nonpolitical "quasi-terrorist" acts such as the 1940 to 1956 "Mad Bomber" campaign that targeted transit and other infrastructural targets in New York City and the 1994 Fulton Street firebombing on the NYC subway.[9]

The February 26, 1993, World Trade Center bombing while not a transit-directed attack, impacted operations on both the NYC subway and the bi-state PATH commuter railway, yielding significant damage to PATH'S lower Manhattan terminus at the World Trade Center. Similarly, the October 9, 1995 sabotage-induced derailment of Amtrak's *Sunset Limited* killed one person and injured 65.[10]

Definition

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.

[7] United States Department of Transportation (USDOT) Office of Intelligence and Security (OIS)

[8] See Joseph Scanlon, "Passenger Safety and Efficient Service: Managing Risk on London's Underground," *Transit Policing,* Vol. 6, No. 2, Fall 1996 for a discussion of emergency and terrorism management practices at the London Underground.

[9] Michael F. O'Connor, "Fulton Street Firebombing-A Chief's Perspective," *Transit Policing,* Vol. 6, No. 1, Spring 1996.

[10] For a description of the *Sunset Limited* incident and response by Amtrak Police see Ernest R. Frazier, "The Sunset Limited Derailment: Implications for Surface Transportation," *Transit Policing,* Vol. 6, No. 1, Spring 1996.

Definition

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

This chapter builds on the information presented in earlier chapters and considers the unique aspects of addressing intentional threats and disasters in the transit environment. Included are definitions related to terrorism and intentional threats, an overview of response requirements, and a description of the roles and responsibilities of the transit system and response agencies in the event of terrorist attack.

7.1 Terrorism

Terrorism is a complex and evolving phenomena. As global, social, economic and political circumstances change, so does the threat and manifestation of terrorist violence. The complexity of terrorism is reflected in the definitions used to describe these acts. The FBI, which is the lead Federal agency for investigating terrorist acts, defines a terrorist incident as:

> "A violent act, or 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."

The United States Department of State, which tracks international terrorist events, uses the definition of terrorism contained in Title 22 of the United States Code, Section 2656f(d) where terrorism is defined as:

> "Premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience."

While these definitions describe terrorism in its classic form, recent efforts to define terrorism are likely to add religious, economic, environmental, and social dimensions as new groups such as millennialist cults, white supremacists, and Islamist extremists join traditional political groups in utilizing terrorist violence to influence opinion or spread their message.

Similarly, groups with criminal motivations such as narcotics cartels and organized

crime also embrace terrorist-like tactics to further their goals. These acts, known as quasi-terrorism, are also of concern to transit systems. A poignant example is the March 12, 1993, simultaneous detonation of 13 car bombs by criminal elements throughout Bombay, India." Regardless of the underlying motivation, transit systems take virtually identical steps to manage the consequences of both types of acts.

Response to terrorism is generally divided into two components:

- ***Crisis Management***
- ***Consequence Management***

These types of response are defined in Presidential Decision Directive 39 (PDD-39), which articulates the Federal framework for addressing terrorism and in the Terrorist Incident Annex to the Federal Response Plan (FRP), which guides Federal response to disasters.

Crisis Management includes measures to resolve the hostile situation, investigate, and prepare a criminal case for prosecution under Federal law. Crisis management entails measures to confirm a threat, investigate and locate the terrorists and their weapons, as well as measures toward their capture. The FBI, the lead agency for crisis management efforts, generally integrates local public safety agencies (e.g. police, fire and impacted entities) into a Unified Command Structure for managing the event.

Definition

Crisis Management: Measures to resolve the hostile situation, investigate, and prepare a criminal prosecution, including measures to confirm a threat and steps toward interdiction or prevention of a terrorist attack.

Consequence Management is the area of terrorism response with the greatest potential impact on a transit system. Simply stated, consequence management entails all efforts toward addressing the damage and disruption caused by a terrorist event. As such, consequence management is the segment of terrorist incident response that most closely resembles traditional emergency and disaster response.

Unlike crisis management, which is primarily a law enforcement function, consequence management requires efforts by many disciplines (police, fire, rescue and EMS, utilities and transit specialties). Consequence management is primarily the responsibility of the impacted entity (jurisdiction or transit system). Should Federal support be required, FEMA would

[11] The Nixon Center for Peace and Freedom, "Study Group: Seminar on Megaterrorism," *Program Brief,* Vol. 2, No. 3, Feb. 6,1996.

be the lead agency for consequence management response.

Definition

Consequence Management: Measures to alleviate the damage, loss, hardship, or suffering caused by emergencies. These include measures to restore essential services, protect public health and safety, and provide emergency relief to affected State and local governments.

FEMA defines limited consequences as those which a state or locality can manage independent of Federal assistance. Major consequences are those incidents requiring Federal support. During response to a terrorist incident, all consequence management efforts are coordinated by FEMA. While the threat is still active, FEMA uses the command of the FBI (the FBI Special Agent in charge of the impacted field office acts as On-Scene Commander). When a continued threat is abated (there is no longer a crisis management dimension to response), all Federal efforts are continued under FEMA-'s direction.

The access point for transit systems requiring consequence management support to cope with the effects of a terrorist disaster is through the local government (city or county), which then seeks support from the affected state, which then seeks Federal support when state or local resources and capabilities are unable to handle the magnitude of the event.

7.2 Terrorism in the Transit Setting

Terrorist incidents are essentially intentional disasters. The response, scene management, resource management, and emergency measures employed in the "consequence management" of terrorist incidents are similar to those encountered in conventional disasters. These similarities form a basis for formulating response and building response skills.

The impact of a terrorist attack—using either conventional techniques or Chemical, Biological or Nuclear (CBN) agents—on transit systems is influenced by the transit environment. Transit systems are attractive to terrorists for many reasons. Analysts John P. Sullivan and Henry I. DeGeneste have noted that:

> "Transit systems are attractive viable targets for a number of reasons. They carry large numbers of people within concentrated predictable areas and time frames. They are accessible (since they provide easy user access). Finally, their target-rich infrastructure, which often covers extensive geographic areas,

frequently renders effective counter-measures impractical."[12]

These systems possess many technological hazards as part of their operating environment. These include high voltage traction power, fixed guideways transversing bridges and tunnels, and a reliance on switches and automated control systems. Finally, transit systems are just that — systems. An event at one point can influence or trigger an event at another point in the system. All transit agencies are vulnerable to acts of terrorism or quasi-terrorism, including:

- Heavy, light, and commuter rail systems
- Bus systems
- Intermodal facilities, services, and terminals

Terrorists can:

- Exploit the vulnerability of transit systems to conduct direct attacks (bombings, stand-off assaults, sabotage) aimed at casualty generation
- Utilize threats to stimulate disruption

The disruptive option allows terrorists to generate fear without alienating possible supporters and has been exploited by a number of groups including the Provisional Irish Republican Army (PIRA) in Great Britain. In the United States, which has experienced limited acts of transit terrorism, bomb threats have historically been the greatest concern to transit systems.

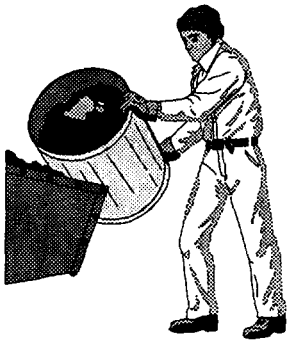
7.2.1 Risk Assessment and Threat Identification

In addition to the traditional problem identification, hazard analysis, risk assessment, and threat identification outlined in Chapter 2, there are special considerations for performing these tasks when addressing transit vulnerability to terrorism. The risk assessment, as presented in Table 2, from the General Accounting Office will need to address those issues specific to terrorism and quasi-terrorism. Once a risk assessment has been completed, it is recommended that the transit agency document potential terrorist threats to the high-risk areas of the system. This documentation enables system vulnerabilities to be clearly identified and prioritized.

12 Henry I., DeGeneste and John P. Sullivan, "Transit Terrorism: Beyond Pelham 1-2-3," *The Police Chief,* February 1996.

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



7.2.2 Threat Management

Transit systems must develop and maintain effective mechanisms for addressing terrorist threats and actual incidents. Such mechanisms must include the ability to distinguish between threats that pose a likely indication of serious violence and those that do not.[13] Effective preparation for managing terrorist threats (including threats involving the use of explosives, incendiary devices, or CBN agents) requires transit systems to:

- Develop a comprehensive Threat Management Plan (such a plan should articulate the roles of transit departments, fire and police departments, and local government agencies in the transit system's operating area)
- Identify local bomb squads and their operational protocols for deployment in transit situations
- Understand the roles of law enforcement agencies (transit police, local police or sheriff's departments, and the FBI regarding crisis management and threat response)
- Local public safety agencies (police and sheriff's departments, fire departments, and bomb squads) should be invited to participate in the planning process. Protocols for safe bomb searches, evacuations, service restrictions, and the evaluation of

[13] A comprehensive transit threat management framework is described in Henry I. DeGeneste and John P. Sullivan, *Policing Transportation Facilities* (Chapter 5: Transportation Terrorism), Springfield, Illinois, Charles C. Thomas, 1994.

suspicious packages must be developed.

- Bomb squads or Explosive Ordinance Disposal (EOD) teams may also have portable x-ray units available for examining suspect objects and packages. Bomb squads may want certain measures taken until they arrive to handle or "clear" a suspect device.

Typical elements of a Threat Management Plan include:

- A checklist for recording telephone threats

- A mechanism for evaluating threats and their potential impact. (Is the threat credible and feasible? When and where will it occur? What type of device is it? What is the impact on the system and its passengers and employees?)

- Designated decision makers (i.e., management personnel empowered to decide upon the course of action in each threat situation)

- A checklist and decision aids for evaluating the threat and selecting an appropriate response

- A safe search procedure for employees (employees are best suited to searches of their own work space, since police or bomb squad personnel do not have the knowledge of the normal setting and may not recognize what is "out of place" or suspicious).

The bomb threat procedures used by a small suburban bus transit agency (Kitsap Transit, Bremerton, Washington) and the bomb threat procedures used by a large rail system (BART) are presented in *Appendix I.*

Threats may be written or oral. The telephone is frequently used to convey threats. Recipients of written threats should preserve the paper for law enforcement agencies and should not handle it unnecessarily. Recipients of telephone threats should obtain and record as much information about the threat and the caller as possible. This requires considerable preparation, which should include instructions that the recipient keep the caller on the phone as long as possible.

7.2.3 Telephone Threat Procedures

A checklist of questions to ask callers should be readily accessible to all personnel who may receive a telephone threat. There should be sufficient space on the checklist to note the caller's responses. A threat checklist should include the following questions:

1) *When is the device going to explode?* The recipient should try to obtain the precise time, through follow-up questions if necessary.

2) *Where is the device now?* The recipient should try to pin down the exact location of the bomb. Answers to the questions about location may also reveal the caller's knowledge of the facility and provide insight to the caller's credibility.

3) *What does it look like?* Is it an "open" bomb (components obviously identifiable) or a "closed" bomb (components or entire bomb concealed or disguised)?

4) *What kind of device is it?* The reply may give some insight into the caller's expertise in the explosives area or whether the device is affiliated with a particular group.

5) *What will cause it to explode?*

6) *Why are you doing this?*

7) *What is your name?* Some callers have replied to this question. The recipient can also ask the caller, "What is your telephone number in case we get cut off?"

Persons receiving a threat should enlist the support of co-workers in recording a telephone threat (without the knowledge of the caller and without alarming the general public). Co-workers can then listen silently to the conversation to help gather information. Recording devices should be considered at locations most likely to receive a threat (e.g., control centers, transit police and security stations, executive offices). Such devices allow the system to record the conversation to assist in threat evaluation.

Once the threat is recorded, the person responsible for threat evaluation and key decision makers should be notified immediately. These persons should meet with the recipient and anyone else who listened to the conversation to review the information received. Questions to discuss include:

1) What was the caller's sex and estimated age?

2) Did the caller have an accent associated with a particular ethnic group or geographical location? Were there other voice characteristics?

3) What was the caller's emotional state?

4) Were any background noises identified?

5) Was the target identified?

6) Is the threatened act technically feasible?

7) What are the latest reports on bomb-related activity in the area?

8) Is this threat similar to others received at the system in the past?

7.2.4 Response Action

After evaluating the threat, the decision-maker/decision authority must select a course of action. Options include:

- Non-Action (maintaining normal service)
- Conducting search activities without restricting service (covert search)
- Restricting service (localized closure and evacuation)
- Suspending service (systemwide closure and evacuation).

Each option should be weighed carefully based upon all known threat information and current system situation. Potential adverse impact on passengers and employees due to unnecessary search (possibility of death and injury) must be weighed against the likelihood that a dangerous device actually exists. Historically, the number of actual devices in relation to the number of threats received is low.

Key Threat Management Steps[14]

- ***Review Threat Information***
- ***Establish Decision Authority***
- ***Conduct Threat/Risk Evaluation***
- ***Determine Potential Impact***
- ***Assess System Status***
- ***Develop Action Plan***

[14] Adopted from Henry I. DeGeneste and John P. Sullivan, *Policing Transportation Facilities* (Chapter 5: Transportation Terrorism).

7.2.5 Safe Search and Evacuation Procedures

If an evacuation is required, the public announcement should be clear and calm, and provide definitive directions regarding evacuation destinations and instructions. Evacuation directions should stress the need to maintain order and avoid deception. Undue emphasis on words such as "bomb," "blast," "explosion," "detonate," and "blow up," should be avoided.

Pre-recorded messages are valuable, since they are not delivered with unusual stress or emotion. These messages should include instructions that evacuees take all personal effects with them. Items left behind (e.g., purses, lunch boxes, vacuum bottles, and briefcases) would be considered suspect items by searchers and may have to be "cleared" by bomb squad personnel, thereby extending the time required to resolve the threat.

If a search is required, team members should be employees who are the most familiar with the areas to be searched. All searchers should receive periodic training on safe search practices and explosives awareness from bomb squad professionals. Checklists of systematic search procedures should be developed and made readily available to all persons who may participate in search operations. In all cases, search operations must be carefully controlled. Each search should have a designated leader, and all searchers should receive a briefing on safe search practices prior to beginning search activities. Issues to consider when conducting a search include:

- Maintaining a manageable span of control and never using more searchers than necessary
- Conducting all searches as "visual searches" (avoid touching or moving objects)
- Avoiding cellular phone transmissions during search operations
- Using teams for conducting searches (each searcher should have a partner)

- Conducting searches methodically (One searcher should begin at ground level, move up toward waist level, then waist to eye level, then eye level to ceiling. Search partners should then reverse roles.)

- Searching should be conducted systematically (look for objects "foreign" or out of place)

- Being attentive to areas where an explosive device could be hidden or disguised, including: lockers, stairwells, hose and hydrant niches, lavatory stalls, waste containers, unsecured janitorial closets, telephone booths, planters, large hollow ash trays, unsecured floor drains, unsecured vent ducts and registers, and suspended ceiling panels

- Marking and/or controlling each area after it is searched to avoid duplication of effort and later contamination (report searched area as "searched and no bomb found.")

The following procedures are recommended when an employee finds a suspicious object:

- Do not touch or disturb it

- Safely isolate and deny access to area

- Immediately evacuate the area (no less than 100 yards from the object)

- Prepare to describe the object in great detail to the bomb squad

- Do not conduct cellular phone transmissions within 100 yards of a suspect object, or in direct line of sight of the object

- Suspect the possibility of a secondary device

- Maintain an awareness of secondary impact on the transit system.

7.3 Chemical, Biological, and Nuclear Threats

The potential for terrorist use of Weapons of Mass Destruction (WMD), including CBN agents has received increased attention since the March 1995 sarin attack on the Tokyo subway by the millennialist Aum Shinrikyo cult. While terrorist use of WMD agents and devices remains a low-probability event, profound consequences of such an event demands increased preparedness in the civil environment. The closed spaces and relatively large populations present at many transit systems heighten the level of concern.

Definition

Weapon of Mass Destruction (WMD):

Title 18, Section 2332a **of U.S.C. defines WMD as:**

- Bombs, grenades, rockets, missiles or similar devices, large-bore weapons, or parts to assemble such weapons (detailed in 18 U.S.C, section 921)
- Poison gas
- Any weapon involving a disease organism
- Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life

CBN agents can be dispersed directly into the air, into the air through ventilating systems, in drinking water, or on surfaces. Dispersion methods may be as simple as opening a container, using conventional spray devices, or as elaborate as detonating an improvised explosive device.[15] While nuclear or radiological terrorism is also possible, this section addresses only chemical and biological threats.

Briefly, however, nuclear events could include nuclear weapons which release energy in an explosive manner as the result of nuclear chain reactions involving fission and/or fusion of atomic nuclei, or the more likely dispersal of radioactive material resulting in contamination (known as radiological release). In a radiological release, radiation is colorless, odorless, and invisible. The best protection is to avoid or minimize exposure to the agent.

7.3.1 Detection of Chemical Attacks

Definition

Chemical Agents: Solids, liquids, or gases that have chemical properties that produce lethal or serious effects in plants and animals (including human beings). These include industrial hazardous materials as well as Chemical Warfare (CW) agents.

[15] Information on biological and chemical incidents was excerpted from *Biological and Chemical Incident Handbook,* Director of Central Intelligence, Interagency Intelligence Committee on Terrorism, Community Counterterrorism Board, June 1995.

There are specific indicators of chemical terrorism including:

- Numerous dead animals, birds, and fish of varying types and sizes
- Lack of insects
- Numerous persons experiencing unexplained water-like blisters, wheals (like bee stings), and/or rashes
- Mass casualties and /or problems such as, nausea, disorientation, difficulty breathing, convulsions, death
- Illness associated with a confined geographic area
- Unusual oily liquid droplets or film on surfaces
- Trees, shrubs, bushes, food crops, and/or lawns that are dead, discolored, or withered, with no current drought
- Unexplained odors ranging from fruity to flowery to sharp or pungent to garlic or horseradish to bitter almonds to new-mown hay
- Low-lying cloud- or fog-like condition unexplained by its surroundings
- Unusual (bomb- or munitions-like) metal debris, especially if it contains a liquid.

Detection of the particular chemical used, however, is far more difficult. This detection is necessary to determine the appropriate medical treatment and decontamination measures. Thus, the response to chemical incidents includes using different types of sensors to determine which agent was used. Chemical agent detection involves the use of:

- Detection papers (M8/M9)
- Colormetric tubes
- Military detection kits
- Pesticide tickets
- Electronic detectors

7.3.2 Detection of Biological Attacks

Definition

Biological Agents: Micro-organisms or toxins from living organisms that have infectious or non-infectious properties which produce lethal or serious effects in plants and animals (including human beings).

Detecting biologic agents, also known as Biological Warfare (BW) agents, is even more difficult than detecting chemicals because:

- Biological agents are usually odorless and colorless
- Biological agents are not revealed by metal detectors, trained dogs, or traditional detection equipment
- Amounts capable of doing great harm can be secreted in small containers
- Some bacteria and viruses have a multiplier effect (i.e., the contagion factor)
- The pathogen can be time-released, delaying the symptoms of the attack by minutes, hours, or days. (Because of this delay, the area affected may be greater due to the migration of infected persons. Use of a time-released agent also increases the perpetrator's chances of avoiding detection.)

Three common categories of biological agents are:

- ***Bacteria*** (e.g., anthrax, plague, tularemia)—Commonly used as germ weapons. If diagnosed at an early stage, bacteria can be treated with antibiotics.
- ***Viruses*** (e.g., smallpox, flu, Marburg, Ebola)—Viruses are much smaller than bacteria. They have a genetic core (DMA or RNA) encased by a protective protein that facilitates cell infection. They are far more difficult to treat than either toxins or bacteria; however, viruses also require a receptive host in order to thrive.
- ***Toxins*** (e.g., botulism [BTX], ricin) — Toxins are nonliving organisms, which are incapable of replication. Thus, they do not have a multiplier effect, as some bacteria and most viruses do. They are either made

synthetically or produced by living organisms.

Indicators of a possible biological incident include:

- Unusual numbers of sick or dying people or animals
- Unscheduled and unusual spray being disseminated
- Abandoned spray devices that have no distinct odors.

7.3.3 Response Action

Organizing a response to a terrorist incident involves many complex issues. A successful response plan to an CBN or WMD incident will incorporate the same policies and guidelines utilized by the ICS. Response efforts for such an incident will rely upon the coordination between the transit agency and local authorities and hazmat teams.

CBN incidents can be viewed as intentional hazmat incidents. The process used to manage these incidents, shares many similarities with the process of hazmat response. For example, the considerations involved in the response to a nerve agent are the same as those in responding to an organophosphate insecticide spill. A blister agent is similar to a spill of a common industrial chemical. Demystifying chemical and biological terrorist weapons is extremely important to the development of assured response capabilities.[16]

All incident response action plans the first step should be to notify the Police and Fire Departments, and EMS. Transit personnel should be aware that this document does not make them capable of achieving a rescue unless they have received proper training. Most EMS systems and local HAZMAT teams, themselves, have not received this training. Typically, only the FBI, FEMA, DOD, and EPA have the capabilities and expertise to resolve such an incident.

To guide response to terrorist acts, the following identifies both general and transit-specific objectives:

General Incident Objectives

[16] U.S. Department of Transportation, RSPA/John A. Volpe National Transportation Systems Center, 1998. *First Responder Training Workshop.* Ch. 4, p. 3.

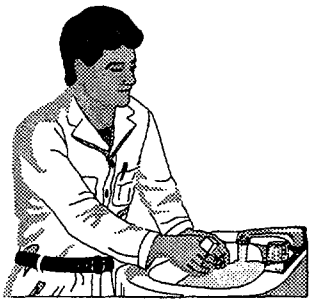
- Secure Perimeters
- Control and Identify the Threat
- Rescue, Decon, Triage, Treat and Transport
- Move Crowds to Safe Zones
- Protect Rescuers
- Avoid Secondary Contamination
- Secure Evidence and Crime Scene
- Protect Against Secondary Attack

Transit-Specific Objectives

- Provide Alternative Modes of Transport
- Assess and Mitigate Secondary Impact on System
- Rapid Restoration of Service
- Restore Passenger Confidence
- Restore Employee Confidence

Actions to be considered in response to suspected use of biological or chemical agents include:

- If outside, approach or evacuate upwind of the suspected area
- If outside, immediately cover all exposed skin surfaces, and protect the respiratory system as much as possible, using overcoats, boots, gloves, hats, self-contained breathing systems, and organic vapor respirators
- If inside and the incident is inside, evacuate while minimizing passage through the contaminated area
- If inside and the incident is outside, stay inside, turn off air conditioning, and seal windows and doors with plastic and tape
- Immediately request emergency assistance and report the incident
- Provide information on hazards to responding personnel so they can adopt appropriate protective measures
- Decontamination must be considered an immediate first aid need.



7.3.4 Preparedness Resources

Transit systems should consider the possibility of terrorism involving WMD and should integrate counter-terrorism efforts (including response to WMD incidents) into emergency preparedness efforts. This might include the integration of terrorism contingency plans into the agency's emergency plans. Detailed contingency plans should be developed in the preparedness phase to ensure smooth operations during critical situations

produced by terrorism and acts of extreme violence.

As part of the Nunn-Lugar-Domenici Domestic Preparedness Program in Defense Against WMD, the DOD is the lead agency in a Federal interagency training effort to better prepare 120 U.S. cities at risk. During fiscal year 1997, the DOD will begin providing training support to 27 cities. Contingent upon funding, the DOD goal is to train response personnel in 120 cities by the end of 1999.

Metropolitan Medical Strike Teams (MMSTs) are being developed to manage the immediate medical consequences of CBN terrorist events in 27 cities. The United States Public Health Service (USPHS) will sponsor these MMSTs in partnership with local and public safety response agencies. These teams will be augmented by three national response teams. These national teams, known as National Medical Response Teams WMD, are a component of the USPHS's National Disaster Medical System (NDMS) disaster medical assistance team system. The three teams are located in Los Angeles, CA; Denver, CO; and Winston-Salem, NC.

In addition to these teams, the DOD has established a Chemical/Biological Quick Response Force (CBQRF) which can provide military support to civil authorities. The FBI has the role of marshaling these specialized consequence management resources in the event of a terrorist event involving WMD agents.

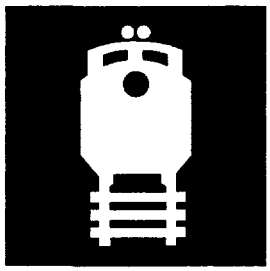
8. Assisting with Community Disaster Response and Recovery

Public transit agencies prepared to respond to transit emergencies and disasters are also a valuable resource to the communities they serve. Transit vehicles can:

- Move large volumes of people, personnel, equipment, and supplies
- Be used as barriers to contain crowds
- Be used to protect against the elements
- Provide temporary shelter.

Transit facilities, such as stations and tunnels, can also provide shelter. Proper preparation for transit emergencies enhances the transit system's capability to effectively integrate these resources into community response and recovery.

This chapter discusses the relationship between transit systems and other agencies that are required to effectively integrate the transit system in a community disaster response. Numerous examples of the roles played by transit systems in community disasters are also provided.



8.1 Liaison with External Agencies

Many states, counties, and cities have formal disaster plans that include transit systems and other transportation providers. Through these plans, the local government may issue directives to transit systems and transportation providers during community disasters. The transit agency should work with local emergency management boards and councils to ensure its representation and to make county emergency officials aware of the resources the system can provide.

8.1.1 Lines of Authority

The lines of authority and responsibility for all disaster operations should be clearly delineated. The transit system's participation in a community disaster will probably be requested by a municipal, county, state, or even Federal agency, and the system's roles and responsibilities will be defined by that agency.

8.1.2 Response Exercises

Transit agencies can participate in disaster exercises sponsored by other levels of government—city, county, state, Federal. For example, LACMTA participates in countywide emergency management exercises, with county agencies, city governments, and private industry.

Example

In New York City, the Mayor's Office of Emergency Management (OEM) oversees community disasters. NYCT has no formal plan for responding to community crises; it responds to requests for assistance from the OEM. NYCT submits a list of contacts to OEM. Those contacts assess their capabilities and offer proposals for assistance. OEM coordinates those offers with other bus companies, construction companies, and other response resources.

8.1.3 Outreach

The transit agency should take the initiative to reach out to others to establish disaster procedures. The transit system can act as the impetus for involving the transit system in plans for response to and recovery from community disasters in areas that do not have clearly articulated plans and procedures.

8.2 Examples of Support Provided by Transit Systems

This section presents numerous examples of assistance provided by various rail and bus transit systems to community disaster response and recovery efforts, including:

1) Additional transportation service to assist the community

2) Respite (Rest and Relaxation) facilities

8.2.1 Additional Transportation Service to Assist the Community

Additional transportation services include:

1) *Substitute transportation* for motor vehicle traffic when streets, highways, bridges, or tunnels are closed

2) *Evacuation* of victims or potential victims from disaster areas and shelter for displaced persons

3) *Transport of rescue personnel, equipment, and supplies* to the disaster scene or transport of debris from the scene.

8.2.1.1 Substitute Transportation

When a decision is made to provide bus service to assist in a disaster response or recovery effort, the transit agency must first consider a charter service before supplying a transit bus. FTA regulations prohibit use of Federally funded buses for service that could be provided by charter coaches. If the disaster-caused need is immediate, however, this rule does not apply. Acquiring the most readily available vehicles is the priority.

Example

The New Jersey Governor's Office of Emergency Management directs NJT to perform special services to the community during disasters. No formal agreements are in place for these directives; services are provided through informal cooperation. People are evacuated by bus from flood zones (e.g., Sea Bright, peninsula near Asbury Park). NJT responds to fire department calls for shuttle service for relief crews, supplies, and evacuation.

Examples

- As part of the recovery effort following Hurricane Andrew in Miami, MDTA sent supervisors to the neighborhoods to assess transportation needs. MDTA responded with 200 minibuses and vans.

- BART provided additional train service to offset the closure of area freeways following the earthquake of 1989. BART increased its daily ridership from 220,000 to 357,000 by making all equipment available and asking operations and maintenance personnel to work extra shifts.

- San Francisco Municipal Transit System (MUNI) provided additional service, transportation for rescue efforts, and fuel from its pressurized diesel generators to all city emergency agencies for six hours following the earthquake of 1989.

- The LACMTA Blue Line was running within 40 minutes after the earthquake of 1994. Rail service was maintained to drop off passengers from downtown Los Angeles. The LACMTA police secured the stations in the area and sent maintenance crews in flack jackets to protect themselves. Extra service was provided to evacuate people from downtown.

- The Santa Clarita to Palmdale Metrolink line increased frequency of service and length of trains following the 1994 earthquake near Los Angeles to provide substitute service for closed or obstructed streets and highways. Construction on the segments of the line that were previously unopened was increased, enabling Metrolink to open stations at mid-line and extend the line ahead of schedule. Metrolink also transported police and firefighters during revenue service following the earthquake.[17]

8.2.1.2 Evacuation

Transit systems can assist communities with disaster evacuation.

[17] Ibid.

Examples

- Dade County, Florida has a county plan for hurricanes. The MDTA bus system, and occasionally the rail system, provides evacuation service in hurricanes.

- Some transit systems (e.g., Orange County Transportation Authority [OCTA] in California, MDTA, and NJT) are included in plans to evacuate nuclear facilities.

  OCTA is part of the response plan for Orange County. It uses three buses to transport a 45-person team; the buses are escorted by the California Highway Patrol. The team is included in regular countywide mass-casualty exercises. Three exercises are held each year, each using a different hospital. OCTA also participates in the annual exercise involving a nuclear generator event that is required for the nuclear facility to maintain its license.

  MDTA participates in regular exercises with the radiological emergency group to evacuate the Turkey Point nuclear facility. Buses are to be used to evacuate people in an accident. All bus drivers are volunteers who are trained in the procedures for different levels of events.

  NJT is part of the FEMA evacuation plan and response team for nuclear reactors in New Jersey. NJT has a written agreement with FEMA to participate in exercises at no cost to FEMA and to send buses to evacuate the area around nuclear reactors. Buses are sent to collection points under FEMA direction. NJT participates in exercises held every other year.

- When a levy gave way on the Sacramento River, SRTD received a request to evacuate residents affected by the pending flood. People were transported to evacuation centers on SRTD buses. Nursing homes were evacuated using SRTD paratransit buses. Fire departments were in charge of the rescue effort.

- BSDA uses transit buses to evacuate and move people from apartment buildings during emergencies. BSDA transit buses are also used to move prisoners between jails during emergencies.

8.2.1.3 Transportation of Rescue Personnel, Equipment, and Supplies

Transit agencies can assist local communities by moving personnel, equipment, and supplies.

Examples

- Following the earthquake of 1994, dedicated LACMTA buses were used to transport firefighters from designated locations to heliports, and were used to transport police and Sheriffs Department personnel.[18]
- LIRR helps to transport emergency personnel and supplies and evacuees during hurricanes. During Hurricane Gloria in 1985,110 signals malfunctioned, necessitating use of manual signaling for all operations and for the system's 308 grade crossings. Providing the service also required clearing the many fallen trees from railways.
- MUNI buses transported firefighters from San Francisco to the Oakland Hills, California fires in October 1991.
- Following the 1993 World Trade Center bombing, in New York City, a PATH work train was used to haul debris from the underground parking levels where damage occurred.
- SRTD buses were used to transport rescue teams to Travis Air Force Base (in Fairfield, CA) for transport to Oklahoma City following the bombing in 1995. Handicapped lifts on buses were used to lift equipment. This was in response to a directive from the California Office of Emergency Services, which had received a request for response from FEMA. FEMA has regional teams with pre-designated airports (usually Air Force Bases) with access to C-130 transport planes.
- SRTD buses are also designated for transport of specialized bombing recovery teams.
- NJT routinely assists the various fire departments in its vast operating area by providing transit-bus shuttle service for relief crews, supplies, and evacuation.

[18] Ibid.

8.2.2 Respite (Rest and Relaxation) Facilities

Transit buses can be used as rest stations for police, firelighters, and the media, and can be used as a refuge for evacuees. Many transit systems use buses as cooling stations in summer and as warming stations in winter for police and firefighters. For example, the OCTA communications bus, as well as other OCTA transit buses, serves this purpose. The communications bus provides rescue workers with air conditioning, oxygen, water, and food.

Appendix A

Glossary

GLOSSARY€

After Action Report: A report covering response actions, application of emergency management, modifications to plans and procedures, training needs, and recovery activities. After Action Reports are required under emergency management plans after any incident which requires a declaration of an emergency. Reports are required within 90 days.

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.

Branch: The organizational level within ICS having functional responsibility for major segments of incident operations. The Branch level is organizationally between Section and Groups in Operations and between Section and Units in Logistics.

Command: The act of directing, and/or controlling resources at an incident by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Commander.

Command Post: (See Incident Command Post)

Crisis Management: Measures to resolve a 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.

Critical Incident Stress **Debriefing:** A formal, yet open, discussion of incident events, which is specifically directed to emergency response personnel to resolve the emotional aftermath of the incident.

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 afflicted 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).

Division: The organizational level responsible for operations within a defined geographic area or with functional responsibility. The Division level is organizationally situated below the Branch.

Emergency Operations Center: A location from which centralized emergency management can be performed. EOC facilities are established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

Finance/Administration Section: A part of the general structure of the incident command system activated on long duration incidents, responsible for cost accounting and financial analysis of the incident. At the incident the Section can include the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.

Group: Groups are established to divide the incident into functional areas of operation. They are composed of resources assembled to perform a special function not necessarily within a single geographic division. Groups are located between Branches (when activated) and Single Resources in the Operations Section.

Incident Action Plan (IAP): The written or non-written 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. The IAP may have a number of attachments, which support the operational strategy and tactics.

Incident Commander (IC): The individual responsible for the command of all functions at the field response level.

Incident Command Post: The field location at which the primary incident command functions are performed. Also referred to as the Field Command Post (FCP).

Incident Command System (ICS): The nationally used, standardized, on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

Law Enforcement Incident Command System (LEICS): The Incident Command System modified to reflect specific operating requirements of law enforcement.

Logistics Section: One of the five primary functions found in all incident command structures. This Section is responsible for providing facilities, services, and materials for the incident.

Manageable Span of Control: Because the responsibility of each individual supervisor is limited, the span of control typically ranges from three to seven persons, depending on the type of incident, the nature of the response, and the distance involved.

Memoranda of Understanding: Written or oral mutual-aid agreements that serve as the basis of mutual acknowledgement of the resources that each organization will provide during response and recovery efforts.

Metropolitan Medical Strike Teams (MMSTs): Teams that are being developed to manage the immediate medical consequences of CBN terrorist events. The United States Public Health Service (USPHS) will sponsor these MMSTs in partnership with local and public safety response agencies.

On Scene Coordinator: The person at the scene of an emergency who is responsible for coordinating all disaster recovery activities and vehicle movements at the scene.

Operations Section: One of the five primary functions found in the ICS and at all emergency management levels. The Section is responsible for all tactical operations at the incident, or for the coordination of operational activities at an EOC. The Operations Section at field response level may include branches, divisions, and/or groups, task forces, teams, and single resources.

Planning/Intelligence: This section is responsible for the collection, evaluation, and dissemination of information related to the incident or an emergency, and for the preparation and documentation of Incident Action Plans. This section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident. At the field response Level, the Section will include the Situation, Resource, Documentation, and Demobilization Units, as well as Technical Specialists.

Public Information Officer (PIO): The individual assigned at field or EOC level who has delegated authority to prepare public information releases and to interact with the media.

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.

Risk: The exposure or probable likelihood of a hazard (accident, crisis, emergency, or disaster) occurring at a system. Risk is measured in terms of impact (criticality to people or the system) andvulnerability.

Risk Assessment: 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.

Section: That ICS organization level having functional responsibility for primary segments of incident operations. The sections are Operations, Planning/Intelligence, Logistics, and Finance/Administration.

Situation Assessment/Size Up: Includes information developed by the first person at the scene of an emergency and is basic information transmitted to the communications center, and then conveyed to other agency elements concerned with the control of the event. Situation assessments should be updated as the event changes and control measures are implemented to return the situation to normal.

Terrorism: The FBI defines terrorism as, "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in the furtherance of political or social objectives.

Unified Command System: In ICS, Unified Command is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies.

Unit: An organizational element having functional responsibility. Units are commonly used in Incident Planning, Logistics, or Finance/Administration sections and can be used in operations for some applications. Units are also found in EOC organizations.

Weapon of Mass Destruction (WMD): Title 18, Section 2332a of U.S.C. defines WMD as bombs, grenades, rockets, missiles or similar devices, large-bore weapons, or parts to assemble such weapons; poison gas; any weapon involving a disease organism; any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.

Appendix B

Public Safety Organizations

and Other Emergency Responders

Roles and Responsibilities

PUBLIC SAFETY ORGANIZATIONS AND OTHER EMERGENCY RESPONDERS ROLES AND RESPONSIBILITIES

Typical emergency responsibilities of **police departments** include:

- Crowd control
- Crime scene management
- Criminal investigation
- Traffic control
- Evacuation
- Notifications
- Emergency equipment/communications
- On-scene medical care
- Media control (crime scene line)
- Control of access to the scene

Typical responsibilities of **fire departments** include:

- Firefighting (equipment and personnel)
- Arson investigation
- Evacuation
- Emergency equipment/communications
- Notifications
- On-scene medical care

Typical responsibilities of **EMS organizations** include:

- On-scene medical treatment
- Transportation to hospitals or medical centers
- Emergency equipment and communications

Personnel from **utility companies** (electricity, gas, and water) may also be required at the incident scene. They may have their own ICS and command post.

Medical examiners or coroners are summoned to a fatal-accident scene.

Other local government officials may also be summoned to perform any of the following functions:

- Making decisions regarding use of water, gas, or electricity
- Oversight of response operations
- Authorization of funds, supplies, or emergency equipment
- Answering questions from or supplying information to the media

Nonprofit and volunteer organizations (e.g., the Red Cross) and **private vendors** are often able to provide services or furnish equipment that are unavailable to transit agencies and to the traditional response organizations. Accommodation of private resources at the incident scene must be addressed in advance.

Hospitals receive casualties transported from the scene, provide medical treatment, and maintain records of injuries to establish liability and for insurance purposes.

Volunteer organizations provide or coordinate food and shelter for victims, medical and emergency supplies, and emergency funding for victims.

Insurance companies collect legal and claims information from the scene and from witnesses, provide emergency funding for victims and emergency relocation, and coordinate rebuilding efforts.

When arranging protocols, the transit system should distribute information (e.g., a booklet and/or videotape) about the system to local response organizations in the system's operating territory. These materials should include illustrations of equipment and descriptions of entry and evacuation procedures for the transit system's vehicles, stations, and other facilities.

Specific objectives of protocols between the transit system and **fire departments** include:

- Establish appropriate fire department jurisdiction.
- Establish level of service (e.g., equipment and personnel) to be delivered in response to various types of transit system emergencies.
- Specify level of notification, command and control, and degree of responsibility on-site.
- Establish appropriate methods of communication and develop procedures for continuous coordination and transfer of command.

- Provide training for fire department personnel to familiarize them with transit equipment and facilities and access/egress procedures.
- Conduct periodic drills involving the fire department.
- Identify any special tools and equipment that the firefighters might need that they would not normally possess to address transit emergencies.

Specific objectives of protocols between the transit system and EMS **organizations** include:

- Establish appropriate EMS unit jurisdictions.
- Establish level of service (equipment, personnel, etc.) to be delivered in response to various types and degrees of emergencies.
- Establish appropriate methods of communication for continuous coordination during a response.
- Familiarize EMS personnel with the operating system trains and facilities.
- Conduct periodic drills involving participation by EMS personnel.

Transit systems that are serviced by many small local police departments may also want to encourage use of consortiums for formation and implementation of protocols. Specific objectives of protocols between the transit system and **police departments** include:

- Establish a full understanding of jurisdictional responsibilities between any transit system police or security force and the local police departments.
- Establish level of service (equipment, personnel, etc.) to be delivered in response to various types of train and facility emergencies (as opposed to assistance delivered in response to security or crime related incidents such as "assist officer" calls).
- Establish appropriate methods of communication for continuous coordination during a response.
- Establish procedures corresponding to the types of emergency service anticipated (e.g., crowd control, authorized access control, security threat) unique to emergency situations.

Protocols between the transit system and **public utility companies** should establish points of contact in an emergency, and services to be provided by each.

Specific objectives of protocols between the transit system and **hospitals or medical centers** include:

- Establish the level of emergency services generally available at various hospital locations in the vicinity of transit system routes.
- Establish how patients will be assigned or routed to various hospitals (e.g., by the fire/rescue communications center, fire department, or EMS personnel).

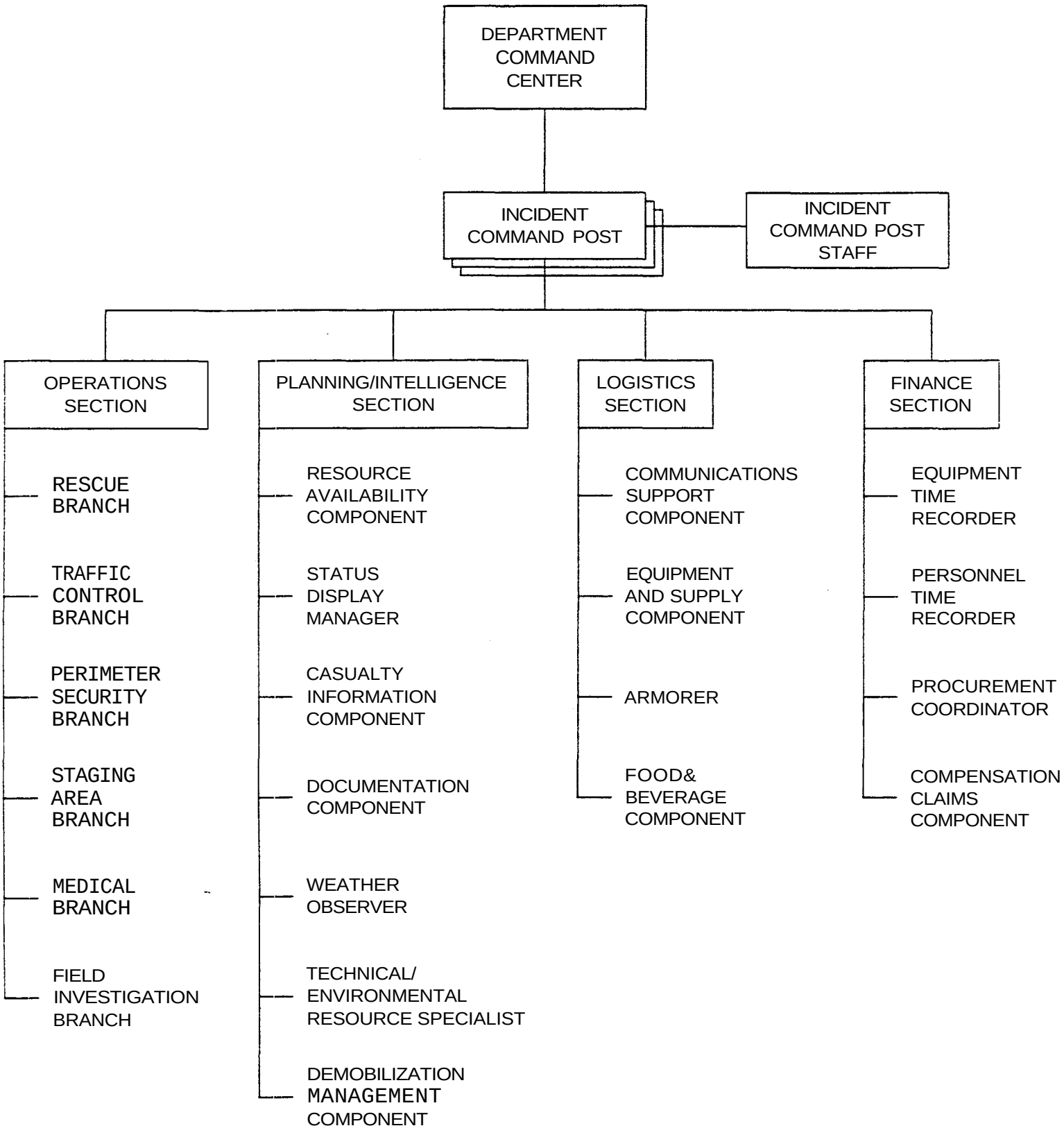
Protocols should be in place with appropriate **local government agencies** to coordinate or to provide temporary emergency shelter for large numbers of evacuees. These agreements should include a provision that the agency maintain a current list of, and preferably agreements with, the charitable organizations that could assist with this effort.

Appendix C

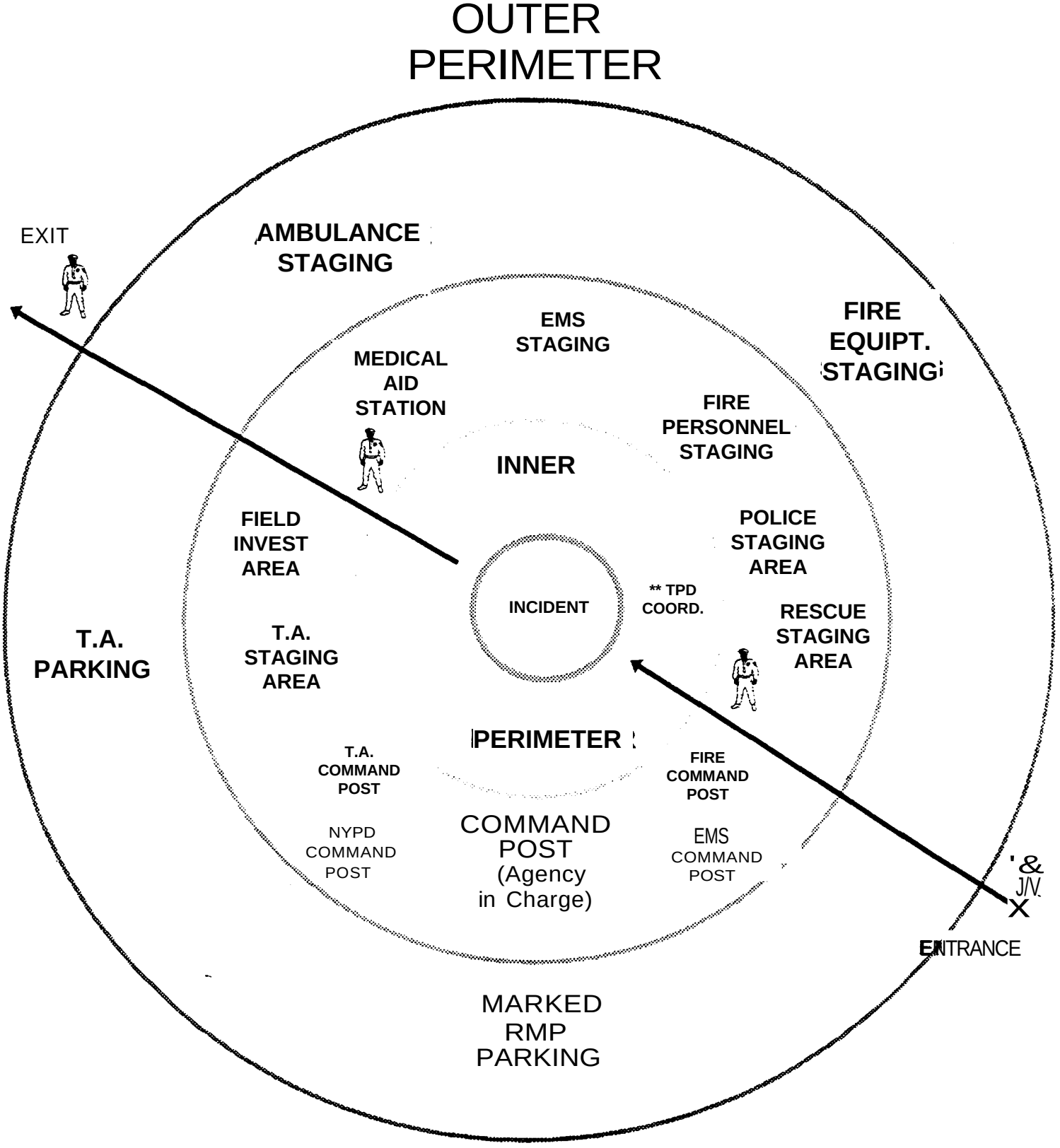
New York City Transit (NYCT)

Incident Command Structure

CRITICAL INCIDENT ORGANIZATIONAL GUIDE



CRITICAL INCIDENT OVERVIEW



Station Perimeter

* Operational only when TA involved

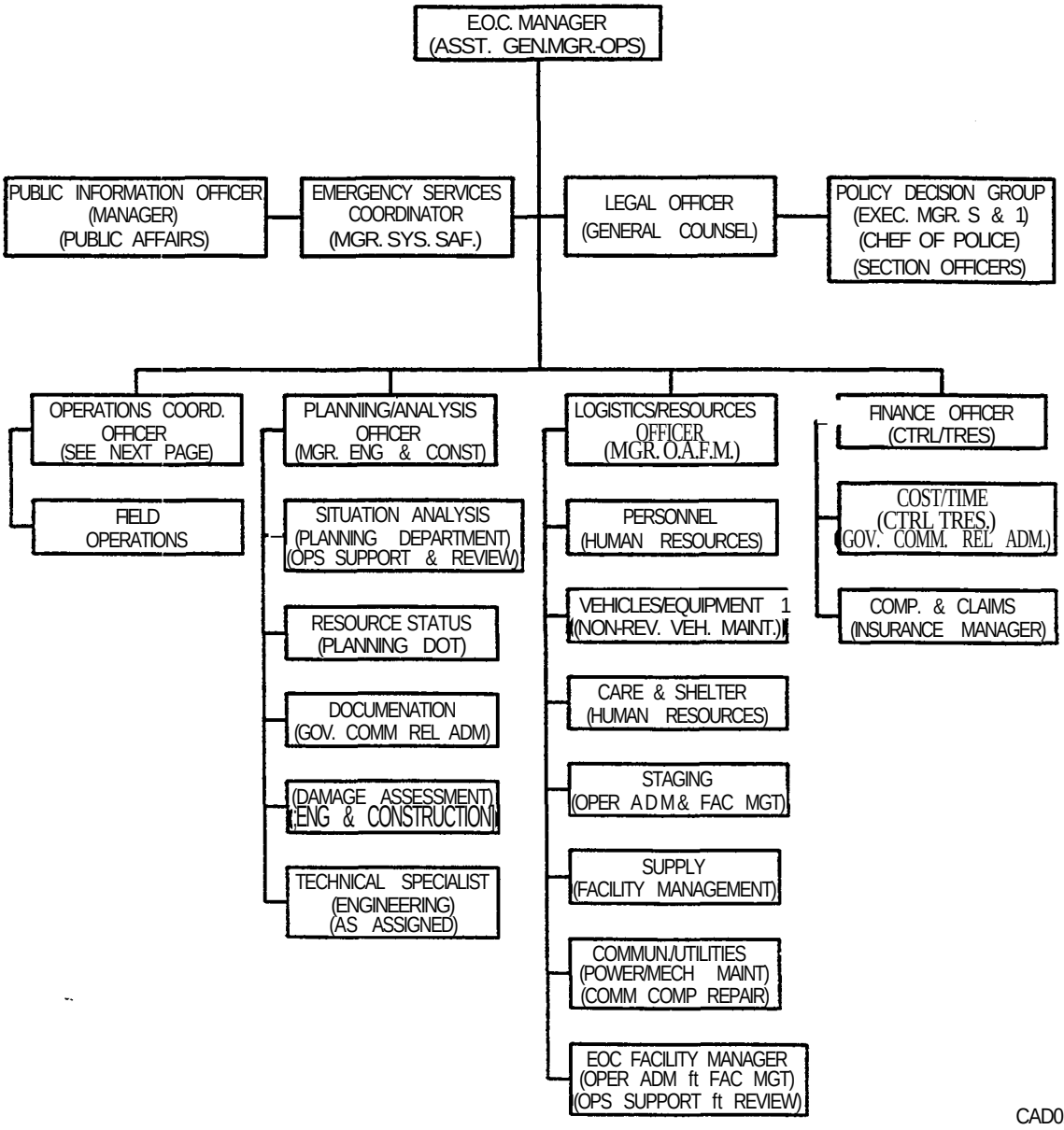
** Established until Command Post is operational

Appendix D

Bay Area Rapid Transit (BART)

Incident Command System

EMERGENCY OPERATIONS CENTER
STRATEGIC EMERGENCY ORGANIZATION



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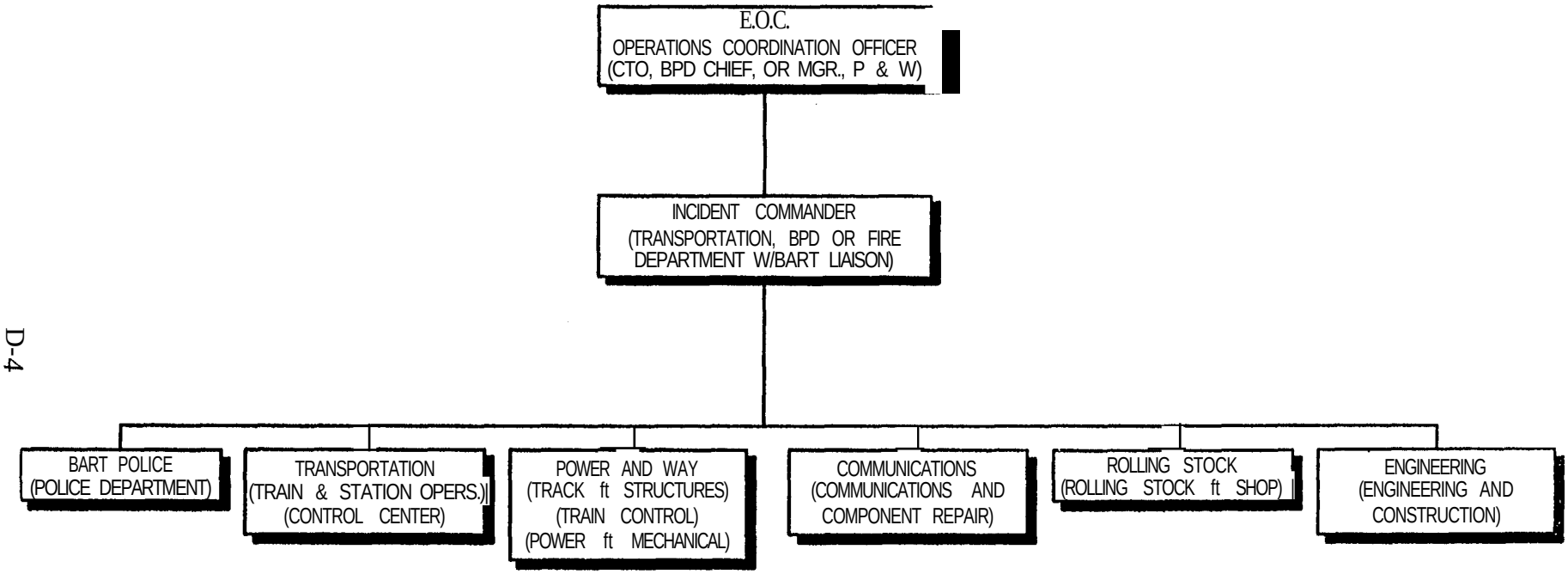
FIELD OPERATIONS



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Appendix E

Transit System Notification Procedures

Transit Agency Notification Procedures

Requirements that enable quick relay of accurate emergency information include:

- Dispatchers, supervisors, and operators must know exactly what to do. Emergency Communication Procedures for Bus Drivers at Kitsap (WA) Transit lists the emergency communication procedures for bus drivers at a medium-sized countywide bus transit agency in suburban Seattle: Kitsap Transit, Bremerton, Washington.)

- Responsibility for making decisions regarding the need for outside support, including private sector resources, should be designated in advance.

- Private sector resources needed for response to a range of incidents and the location and availability of those resources should be determined in advance. The responsibility for keeping this information current should be assigned to one person.

- Responsibility for requesting outside support should be designated in advance.

- The decision makers must receive the information needed to make decisions regarding the necessary resources, and must know how to obtain the resources.

EMERGENCY COMMUNICATION PROCEDURES FOR Bus DRIVERS AT KITSAP (WA) TRANSIT	
1.	Contact Dispatch by radio if possible*. Report location and Condition
2.	As soon as practical, proceed to nearest primary or alternate site, and establish communication center from vehicle for other routes, personnel and conditions until relieved by area captain or supervisor.
3.	Establish routes, employee roster through dispatch. Maintain log of all employee route conditions, bus conditions in your area.
4.	List emergencies by degree of most important to least important. Attempt to make contact for emergency personnel to respond as needed for life and death situations.
5.	If there are no communications, wait 30 minutes and if no one else arrives, leave instructions at the primary or alternate sites and temporary route you will take to access information at designated shelters. The information about which shelters will be used must be gathered and placed back on the information board at primary and alternate sites so that all drivers are aware of the road and shelter conditions.
6.	When other drivers are instructed to make a certain route, it will be delineated on the map, a number will be given to the route and the map will be posted for all others information as well as an agreed upon meeting times. A span of one hour between meet times to report to one of the designated shelters.
7.	Either the supervisor or the team captain will receive and give messages about the status of drivers and their families. The information will be posted at the primary and/or alternate sites or otherwise communicated if possible.
**Try normal radio procedures first. If not operational attempt to contact dispatch by means of back up radio system located in emergency communication kit. Follow directions for radio operation inside kit.*	

Emergency Communication Procedures for Bus Drivers at Kitsap Transit

Tools that assist in the notification process include:

- **Portable notification procedures** - Transit system operations and safety personnel can be given pocket plans for the transit agency and the applicable political jurisdictions. Many transit systems provide pocket manuals or laminated cards containing emergency procedures and supervisors telephone numbers. For example, the Massachusetts Bay Transportation Authority provides a small pocket manual for employees on the rail transit lines. It contains notification procedures for dispatchers, motormen, and guards, as well as emergency codes and instructions for passenger control and evacuation.

- **Accident information checklist** - This should contain all the pertinent information that should be gathered at an emergency scene. See below for a sample checklist. This checklist should be readily available in the vehicle for use by the operator and other on-board personnel.

V	ACCIDENT INFORMATION CHECKLIST
	Information has been collected on other drivers involved in the accident.
	Information has been collected on other vehicles involved in the accident.
	Information has been recorded on people injured as a result of the accident.
	Passenger cards have been distributed and collected from every passenger who was on the vehicle at the time of the accident.
	Information has been gathered from people who witnessed the accident.
	Information has been recorded on people injured as a result of the accident.
	Information has been recorded for any non-vehicle property damage.
	Information has been recorded on police officers who were at the accident scene.
	A description of the accident has been recorded.

Accident Information Checklist

- **Dispatcher notification instructions** - A list of questions to ask the person reporting an emergency should be readily available to the dispatcher. This list should be posted in the dispatcher's working area. A sample dispatcher notification sheet appears below.

DISPATCHER NOTIFICATION SHEET	
When an emergency is reported, the dispatcher should ask the following:	
1.	Vehicle number and driver name
2.	Exact location of the emergency - Road - Cross Street - Direction Headed - Landmarks
3.	Type of emergency - Accident - Fire - Mechanical Difficulty - Health Difficulty
4.	Number of possible injuries
5.	Extent of injuries
6.	Whether emergency personnel have been notified
7.	Time that the emergency occurred

Dispatcher Notification Sheet

- **Quick reference cards with the chain of command and telephone trees -** These should be given to top-level management of the transit system's operations and safety departments. These cards should contain:
    - Names, office phone numbers, and home phone numbers (particularly unlisted numbers) of emergency contacts both within and outside of the transit system
    - Information on utilities
    - Location and availability of private sector resources

The notification process should also include announcing to passengers, in the vehicle or at stations, the nature of the incident and the expected duration. Passengers should be informed about all delays in services (including temporary unexpected train stops), and should be continually updated on the status of the incident. This helps to prevent panic and allows the passengers to respond safely and appropriately.

The transit system should ensure that the precise location of the emergency can be readily found and that the responders have ready access to the necessary information sources at the transit system. The following preparation is helpful:

- Post addresses at all access points at all transit facilities.
- Post the name and telephone number of the transit system and the vehicle number on the outside of each vehicle and prominently display the same information inside the vehicle.
- Provide all responders with the names of primary and secondary contact persons at the transit system, their home phone numbers, and the central number of the transit system. This information should be on an agency profile sheet that can be posted, on stickers that can be pasted on telephones, and/or on cards (preferably laminated) that can be carried in a wallet or in a pocket.
- Designate responsibility for updating the agency profile information and sending the revised lists to all response organizations as soon as information changes.

Appendix F

Response Exercises

RESPONSE EXERCISES

Field exercises that simulate a particular emergency scenario can assist outside responders in understanding the special needs of transportation emergencies. The site should be a location not normally open for revenue service (e.g., a station not open for weekend service or a station under construction). Emergency personnel should first be instructed on access points to stations and vehicles, possible passenger disabilities, engine shut-off procedures, and other pertinent rescue information. Volunteers should be situated on the vehicle as accident victims with a card outlining their condition (e.g., unconsciousness, broken bones, disorientation, difficulty with breathing, and blindness). Responses of all emergency personnel should be timed, and the entire response should be videotaped.

A debriefing with all participants should be held immediately following the exercise. Categories evaluated following a chemical sabotage exercise held at a closed station on the NYCT subway, in September 1995, were:

1. Interagency command post
2. Street control (access/egress)
3. Identification, monitoring, and detection of the released substance
4. Fire department response
5. Spill/leak containment
6. The controller

Results of the debriefing should be documented.

The City of San Francisco conducts four full-scale exercises that include MUNI per year, but no surprise exercises are held. MUNI conducts surprise exercises and debriefings with central control.

NYCT rail conducts four full-scale exercises per year using different scenarios.

SRTD conducts and videotapes one major field exercise per year involving different levels of government and different scenarios, and edits the tapes to present a composite exercise program. Additionally, SRTD and the local hospitals provide supplies to the fire and police departments for specific exercises that they perform.

Planning for field exercises is essential, as they are expensive, and resources are scarce. The purpose and goals must be carefully thought out. The LIRR Checklist for Planning Drills and Exercises that follows was used at LIRR for issues to be considered when planning drills and exercises.

A much less costly alternative to field exercises is table top exercises involving decision makers from the various transit system departments, the outside response organizations, other transit systems and transportation providers, and local government agencies. Tabletop simulation is an informal process conducted, under minimum stress, in a conference room environment that allows evaluation, discussion, and resolution of problems based on existing emergency plans. These exercises build face-to-face relationships and address questions of coordination and assignment of responsibilities in a relaxed format.

An example of an emergency tabletop was an exercise held by LIRR at Penn Station in New York City in 1992. The scenario was an equipment problem accompanied by a loud explosion on an LIRR train as it arrived at the station platform at 3:15 P.M. on a weekday. The platform filled with smoke discharged from the train. LIRR service in and out of Penn Station was suspended. The affected passengers began to build in the station, and additional passengers began arriving at the station entrance for evening rush service at the rate of 300 per minute. Officials from LIRR, Amtrak, and the New York City Fire Department (including representatives from the Fire Department's Emergency Medical Services unit) participated in the exercise.

LIRR CHECKLIST FOR PLANNING DRILLS AND EXERCISES

Establish a baseline:

- Assess the capabilities of the jurisdiction to conduct an exercise
- Define the scope of the exercise
- Assess costs and liabilities
- Announce the exercise in a directive from the chief executive

Identify resources:

- Assign a director
- Establish a team
- Obtain support
- Select a facility

Plan the exercise:

- Devise a schedule or work plan
- State the purpose
- Define the objectives

Develop simulation materials:

- Write a narrative scenario
- Brainstorm major events
- Develop a master event list
- Write problems and messages
- Use training simulators

Provide logistics and support:

- Develop the physical facilities, displays, and materials
- Furnish charts and maps
- Control the room and staff
- Use facilities that are already in place

Long Island Railroad Checklist for Planning Drills and Exercises

Appendix G

California Governor's Office of Emergency Services

Incident Command System

Incident Management Worksheets

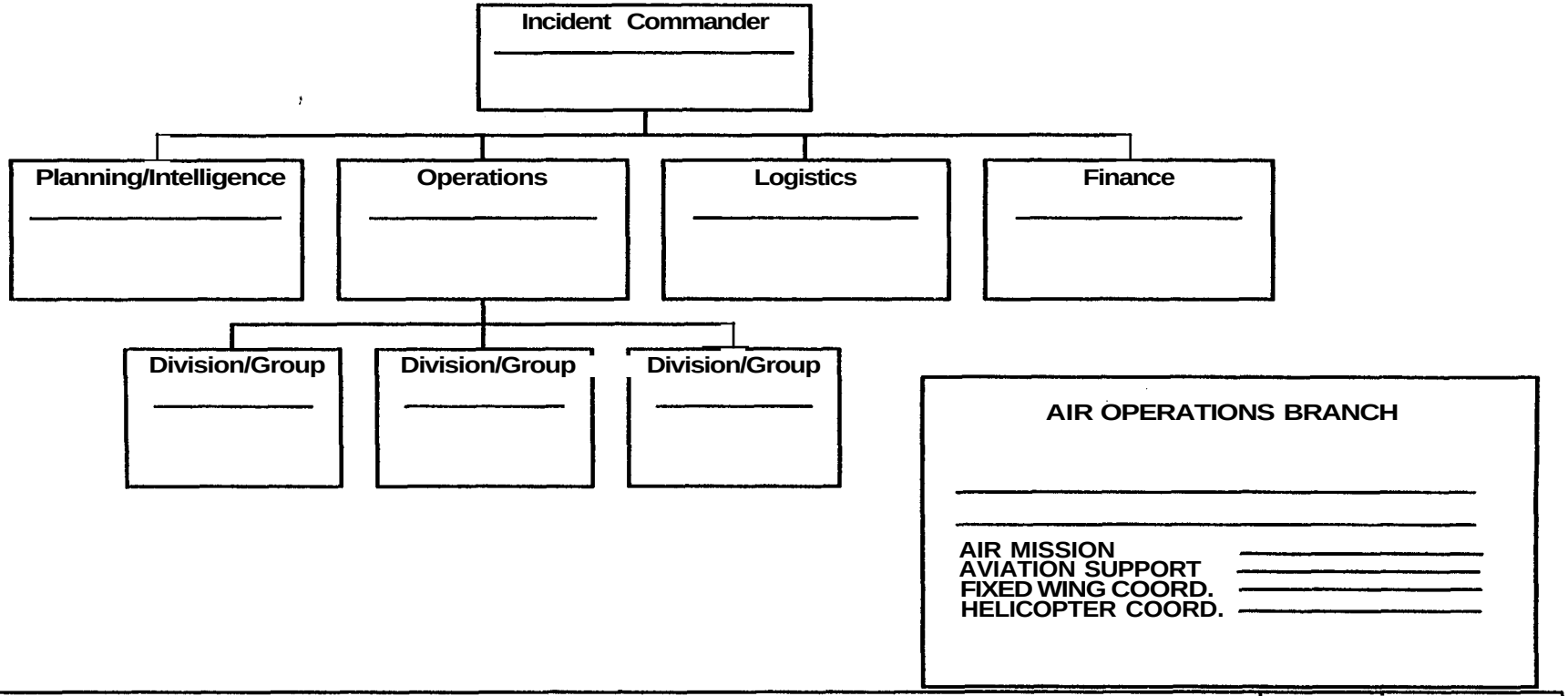
INCIDENT BRIEFING

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
4. OPERATIONAL PERIOD (DATE/TIME)		

5. MAP SKETCH

17. PREPARED BY (NAME/POSITION)	PAGE1	201LEICS

6. CURRENT ORGANIZATION



7. RESOURCE SUMMARY

RESOURCES ORDERED	RESOURCE IDENTIFICATION	ETA	ON SCENE	LOCATION

8. MEDICAL PLAN

8a. MEDICAL AID STATIONS/MEDICAL EVALUATION VEHICLES (HELICOPTER/AMBULANCE)

DESIGNATION/TYPE	BASE/STAND-BY	CONTACT		PARAMEDIC	
		RADIO FREQ.	RADIO FREQ.	YES	NO

8b. HOSPITALS

NAME & ADDRESS	CONTACT		TRANSPORT TIME		HELIPAD EQUIP, (Y/N)	BURN CENTER (Y/N)	TRAUMA CENTER (Y/N)
	PHONE #	RADIO FREQ.	AIR	GROUND			

8C. PROCEDURE TO ACCESS MEDICAL ASSISTANCE/ACCESS ROUTES

9. SUMMARY OF ACTIONS/UNIT ACTIVITY LOG		
10. UNIT NAME/DESIGNATOR	11. UNIT LEADER (NAME & POSITION)	12. OPERATIONAL PERIOD (DATE/TIME)

13. ASSIGNED PERSONNEL

NAME	ICS POSITION	AGENCY/STATION	TIME IN	TIME OUT

TIME	14. MAJOR EVENTS

15. PREPARED BY (NAME/POSITION)	DATE/TIME	PAGE 4	201 LEICS

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INCIDENT OBJECTIVES

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
4. OPERATIONAL PERIOD (DATE/TIME)		
5. GENERAL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)		
6. WEATHER FORECAST FOR OPERATIONALPERIOD		
7. OFFICER SAFETY INFORMAITON		
8. ATTACHMENTS (X IF ATTACHED)		
* ORGANIZATION LIST (LEICS 203) * INCIDENT MAP ☒ _____		
* ASSIGNMENT SHEET (LEICS 204) * TRAFFIC PLAN ☐ _____		
9. PREPARED BY (NAME/POSITION)	**10.** APPROVED BY	202 LEICS

ORGANIZATION ASSIGNMENTS

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD (DATE/TIME)
5. INCIDENT COMMANDER AND STAFF		9. OPERATIONS BRANCH	
INCIDENT COMMANDER		POSITION OIC	NAME
DEPUTY INCIDENT COMMANDER		DEPUTY OIC	
PUBLIC INFORMATION OFFICER		A.	
LIAISON OFFICER		OIC	
6. AGENCY REPRESENTATIVES			
AGENCY	NAME		
7. PLANNING/INTELLIGENCE SECTION		B.	
POSITION OIC	NAME	OIC	
DEPUTY OIC			
8. LOGISTICS SECTION		10. FINANCE SE CTION	
POSITION OIC	NAME	POSITION OIC	NAME
DEPUTY OIC			
A. SUPPORT BRANCH			
OIC			
B. SERVICE BRANCH		11. MISC.	
OIC			
-			
C. PERSONNEL BRANCH			
OIC			
12. PREPARED BY (NAME/POSITION)			203 LEICS

DIVISION/UNIT ASSIGNMENT LIST

1. INCIDENT NAME	2. DIVISION/UNIT	
3. OPERATIONAL PERIOD (DATE/TIME)	4. DATE PREPARED	5. TIME PREPARED

6. OPERATIONS PERSONNEL

OPERATIONS OIC _____ DIVISION/GROUP OIC _____

BRANCH OIC _____ _____

7. RESOURCES ASSIGNED THIS PERIOD

TASK FORCE/RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	INSERTION POINT AND TIME	EXTRACTION POINT & TIME

8. OPERATIONS

9. SPECIAL INSTRUCTIONS

10. COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	CHANNEL	FUNCTION		FREQ.	CHANNEL
COMMAND	PRIMARY			ADMINISTRATION & LOGISTICS	PRI MARY		
	ALTERNATE				ALTERNATE		
DIVISION/ GROUP TACTICAL	PRIMARY			GROUND TO AIR	PRI MARY		
	ALTERNATE				ALTERNATE		
SPECIAL INSTRUCTIONS				AIR TO AIR	PRIMARY		
					ALTERNATE		

11. PREPARED BY (NAME/POSITION)	12. APPROVED BY	204 LEICS

INCIDENT RADIO COMMUNICATIONS PLAN	1. INCIDENT NAME	2. DATE/TIME PREPARED	3. OPERATIONAL PERIOD DATE/TIME

4. BASIC RADIO CHANNEL UTILIZATION

SYSTEM/CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

RADIO COMMUNICATIONS PLAN	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD (DATE/TIME)

5. BASIC RADIO CHANNEL UTILIZATION

AGENCY/DIVISION	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

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MEDICAL PLAN	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED

4. OPERATIONAL PERIOD (DATE/TIME)

5. MEDICAL AID STATIONS

DESIGNATION	BASE/STAND-BY	CONTACT		PARAMEDIC	
		RADIO FREQ.	PHONE NUMBER	YES	NO

6. MEDICAL EVACUATION VEHICLES (HELICOPTER/AMBULANCE)

DESIGNATION/TYPE	BASE/STAND-BY	CONTACT		PARAMEDIC	
		RADIO FREQ.	PHONE NUMBER	YES	NO

7. HOSPITALS

NAME & ADDRESS	CONTACT		TRANSPORT TIME		HELIPAD EQUIPPED (Y/N)	BURN CENTER (Y/N)	TRAUMA CENTER (Y/N)
	PHONE #	RADIO FREQ.	AIR	GROUND			

8. PROCEDURE TO ACCESS MEDICAL ASSISTANCE

9. PREPARED BY (MEDICAL UNIT LEADER)	10. REVIEWED BY (OPERATIONS OIC)	206 LEICS

PUBLIC INFORMATION SUMMARY - INCIDENT STATUS

1. NAME	2. TYPE	3. CAUSE	
4. LOCATION/JURISDICTION	5. INCIDENT COMMANDER	6. START TIME	7. CLOSE TIME

8. AREAS INVOLVED	14. AREAS EVACUATED
9. AGENCIES RESOURCES	15. SHELTER CENTERS
10. CASUALTIES	
A. INCIDENT PERSONNEL INJURIES B. PUBLIC a. Injuries a. b. Fatalities b.	16. HOSPITAL/CONTACT PERSON
11. DAMAGE ESTIMATES	17. ROAD STATUS
A. PUBLIC $ / B. PRIVATE $	
12. WARNINGS - EXPECTED HAZARDS LOCATION / TYPE / PERIOD	18. MISCELLANEOUS
	19. PIO / PHONES
13. CURRENT WEATHER / FORECAST WEATHER	LOCATION
	21. PREPARED BY / DATE/TIME
	22. APPROVED BY / 209 LEICS

CHECK IN LIST ☐ PERSONNEL ☐ EQUIPMENT

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD (DATE/TIME)

5. CHECK IN LOCATION

☐ BASE ☐ RADIO ☐ STAGING AREA ☐ ICP RESTAT ☐ HELIBASE ☐ AIRPORT ☐ OTHER _____

6. LIST PERSONNEL BY AGENCY AND NAME OR LIST EQUIPMENT BY FOLLOWING FORMAT

AGENCY	STATION/ DIVISION	TYPE RESOURCE	EQUIPMENT ID	DATE/TIME CHECK-IN	LEADER'S NAME	TOTAL # PERSONNEL /EQUIPMENT	METHOD OF TRAVEL/ NO VEHICLE	INCIDENT/ ASSIGNMENT REPORTING LOCATION	INFO TO RESTAT/ TIME & INITIALS	DEMOBILIZED DATE/TIME INITIALS

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UNIT LOG (8/96) LEICS 214	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
4. UNIT NAME/DESIGNATOR	5. UNIT LEADER (NAME AND POSITION)	6. OPERATIONAL PERIOD	

7 PERSONNEL ROSTER ASSIGNED

NAME	ICS POSITION	HOME BASE

8. ACTIVITY LOG (CONTINUE ON REVERSE)

TIME	MAJOR EVENTS

INCIDENT PLANNING WORKSHEET

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD (DATE/TIME)

5. ORGANIZATION & ASSIGNMENT	6. WORK ASSIGNMENT		7. RESOURCE BY TYPE													8. REPORTING LOCATION	9. REQUESTED ARRIVAL TIME
		REQ.															
		HAVE															
		NEED															
		REQ.															
		HAVE															
		NEED															
		REQ.															
		HAVE															
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		HAVE															
		NEED															
		REQ.															
		HAVE															
		NEED															
		REQ.															
		HAVE															
		NEED															
10. TOTAL RESOURCES REQUIRED																11. PREPARED BY (NAME/POSITION)	Page _ of _
TOTAL RESOURCES ON HAND																	LEICS

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AIR OPERATIONS WORKSHEET/SUMMARY

1. INCIDENT NAME			2. DATE PREPARED	TIME PREPARED
4. OPERATIONAL PERIOD (DATE/TIME)	5. DISTRIBUTION		6. COMMUNIATIONS AIR/AIR AIR/GROUND	

7. PERSONNEL	8. REMARKS (SPECIAL INSTRUCTIONS, SAFETY NOTES, HAZARDS, PRIORITIES)
AIR OPERATIONS OIC	
AIR MISSION OIC	
HELICOPTER COORDINATOR	
FIXED WING COORDINATOR	

9. AGENCY OWNER	10. OPERATING BASE/LOCATION	11. ASSIGNMENT	12. AIRCRAFT ID #	13. TIME COMMENCE	14. TIME COMPLETE	15. TOTAL FLIGHT TIME	16. TOTAL EXPENDED FUEL
17. PREPARED BY					18. TOTALS		
							220 LEICS

Appendix H

Media Relations During Crisis

MEDIA RELATIONS DURING CRISIS

Preparation is the key when dealing with the media at an emergency scene. Standard messages for the public in different types of scenarios should be prepared in advance. Pre-written messages can serve as the core information for a particular scenario so that only the details have to be added under the duress of a crisis. Recommendations for the transit system's media staff during an emergency include the following:

(1) Send out at least a summary statement or fact sheet as soon as possible after a crisis begins. This minimizes possible disruption caused by the media trying to obtain the information on their own at the scene.

(2) Ensure that enough media relations staff is at the scene to meet reporters as they arrive and to handle media requests.

(3) Try to obtain information from the media. They have cameras in the field and may have prior access to some information.

(4) Maintain contact with the Incident Commander at all times, even when members of the media staff are briefing the media.

(5) Do not try to isolate the media from the emergency area. Reporters will manage to get there on their own.

(6) Allow television and print photographers to get as close to the scene as possible. This must be an organized effort.

(7) Consider a pool set-up if that is the only way that access to the scene can be arranged.

(8) Do not use danger as an excuse for keeping the media away from the response. In most cases, opportunities can be arranged for footage and pictures to be taken near the incident scene.

(9) Maintain awareness of which media are at the scene.

(10) Arrange opportunity for the Incident Commander to brief the media, though access to the Incident Commander should be provided prudently. A good rapport with the media during normal operations should help to minimize the media's insistence on briefings with the Incident Commander during crises.

(11) Monitor press briefings and news conferences. Questions may arise that staff members can immediately begin to verify, confirm, or research.

(12) Know which media are present at the briefings.

(13) Ensure that all media releases are posted in the briefing area and copies are distributed to members of the media.

Because live interviews are becoming increasingly more common on television, media staff must be constantly aware that their answers are being transmitted via television to the audience. Even if the interview is being taped, remarks can be edited in a way that distorts the media specialist's intent. Thus, it is extremely important for transit media specialists to be well prepared when conducting an interview during a crisis. They should know the subject matter involved thoroughly, anticipate questions, and have a plan of action.

Media relations spokespersons should be articulate, authoritative, compassionate, polite, and honest, and should have a sense of humor. They should try to observe the following guidelines:

(1) Dress appropriately, if there is time to prepare. Uniformed personnel should be in uniform.

(2) Present a clear, concise opening statement that covers basic facts.

(3) Always be pleasant.

(4) Use body language that promotes a credible and professional image:

- Strong and authoritative voice
- Appropriate facial expressions
- Appropriate gestures
- Demonstration of compassion
- Eye contact with the entire audience
- Natural, relaxed stance and breathing

(5) Avoid unflattering and distracting body language.

(6) Take and maintain control of the interview.

(7) Defer questions of policy to the policy makers.

(8) Stay calm, regardless of the confrontational nature of the questioners or their deadline pleas:

- Do not rush answers.
- Do not get flustered or defensive.
- Think through the question being asked.
- Buy some time on a question by giving some background information on the issue before answering the question.
- Try to turn negatively directed questions into answers that reflect positively on the response effort.

(9) Use a straightforward manner.

(10) Stick to the news. Do not give opinions on what is interesting or important.

(11) Always tell the truth to reporters.

(12) Do not assign blame, do not estimate damage cost, and do not speculate.

(13) Never repeat a negative.

(14) Never say "no comment."

(15) Avoid using jargon or acronyms.

(16) Never downplay any question from the media.

Appendix I

Bomb Threat Procedures

BOMB THREAT PROCEDURES

Kitsap Transit

1. If a bomb threat is received, initiate the following procedures:
   - Listen carefully (this is very important)
   - Be calm and courteous
   - Get as much information as you can

2. If at all possible, signal a co-worker by other means (such as a note, gesture, etc.) that a bomb threat has been received. The co-worker should alert the Bremerton Police authorities at 911 that a bomb threat is in progress if the caller is still on line. Give authorities the phone number for Kitsap Transit, and request help at this time.

3. Ask the following questions and record the answers:

   (1) What time will the bomb explode?
   (2) Where has the bomb been left?
   (3) Why did you place the bomb?
   (4) Where are you calling from?
   (5) What does the bomb look like?
   (6) How big is it?
   (7) When was it planted?
   (8) Did you make the bomb yourself?
   (9) How did you learn to make the bomb?
   (10) Where did you learn how to make bombs?
   (11) When did you do this?
   (12) Why are you doing this?
   (13) What is in this for you?
   (14) What do you hope to accomplish?
   (15) Do you have a grudge against this company?
   (16) Why?
   (17) What is your name?

4. Record the following:
   (1) Date:
   (2) Time of call:
   (3) Duration of call:
   (4) Call received by:
   (5) Exact wording of threat:

5. Identifying characteristics of the caller:
   (1) Sex:
   (2) Accent:
   (3) Speech (fast, slow, etc.):
   (4) Voice (loud, soft, etc.):
   (5) Diction (good, nasal, muffled):
   (6) Manner (calm, emotional, etc.):
   (7) Background noises:
   (8) Familiar voice:
   (9) Was caller familiar with area?

6. Notify Supervisor using the Emergency Call Listing immediately after receipt of the call.

7. Based on determination of Senior Personnel and local authorities, initiate facility evacuation (if necessary)

8. In the discussion with authorities, complete shut-down of systems (if necessary).

9. Do not attempt to locate the bomb prior to discussions with the authorities.

10. PRECAUTIONS: Should a device or suspected device be discovered, note the following:

- DO NOT touch or move it.
- DO NOT assume that it is the only one.
- DO notify authorities immediately.

Bay Area Rapid Transit District

Reporting a Bomb Threat:

1. The first BART employee to become aware of a bomb threat directed at the BART system shall immediately notify BPD or the Control Center.

2. BPD Dispatch and the Control Center shall notify each other as soon as they have knowledge of a bomb threat.

3. Employees receiving the initial call shall try to get the following information from the person responsible for the threat.

   (1) The location of the device
   (2) Estimated time of detonation
   (3) What it looks like
   (4) Why it was placed on BART
   (5) What type of explosive it contains

4. If an explosion occurs, the provisions of this Plan under "Explosions" shall apply.

Emergency Scene Boundaries:

1. No boundaries shall be established unless a suspicious object or a known explosive device is found.

2. When a suspicious object or a known explosive device is discovered, the emergency scene shall extend for 300 feet in all directions from the object/device, and the boundaries of a bomb threat emergency scene shall be the entire facility, if at a station, office building or shop, and all tracks between stations on either side of the emergency scene if on mainline.

3. Boundaries may be changed by BPD.

Protecting the Emergency Scene:

1. BPD shall insure that only authorized emergency response personnel/agencies enter the area of the emergency scene and that all others remain at a safe distance.

2. Trains shall not be permitted to operate within the boundaries of an emergency scene except to move out of it. Do not permit a train to move past an alleged bomb location.

3. The Control Center shall ensure that all mainline operational instructions are compatible with strategies being implemented by the BPD Watch Commander.

4. If a specific train is the target of a bomb threat, the Train Operator shall be advised: That the train will be held at the next station: passengers must be off-boarded without making a PA announcement or acknowledging radio transmissions and to follow instructions of BPD Officers at the station.

The Emergency Scene:

1. The BPD Watch Commander shall evaluate the threat and specify the level of District response.

2. BPD Officers shall be dispatched to the alleged bomb location to conduct a search along with the BART employee(s) normally assigned to that location.

3. The senior BART employee at the threatened location shall be advised that BPD Officers have been dispatched to investigate and search for the destructive device. The employee at that location may be requested to assist in the search. Such assistance shall be limited to just pointing out items that have not been seen at the location before.

4. Other BPD Officers shall insure that only authorized emergency response personnel are allowed at the incident site.

5. A Police Bomb Squad or Explosive Ordnance Disposal (EOD) personnel shall be requested if a suspicious object or a known destructive device is found. The incident site shall then be evacuated and train movement shall not be allowed through or into the emergency scene until the object is removed or rendered safe.

Restoration of Service:

Normal revenue service through the affected area shall resume as soon as it is determined that the area is safe and is released by the Incident Commander.