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Simplified Guide to the Incident Command System for Transportation Professionals

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Dear Colleague:

Reducing traffic congestion and improving roadway safety are high priorities for the Federal Highway Administration (FHWA). Traffic incidents are a major source of both highway congestion and safety problems. Incidents are estimated to cause approximately half of all traffic delay. Crashes that result from other incidents account for approximately 16 percent of all crashes and cause 18 percent of freeway deaths. For these reasons, FHWA strongly endorses the establishment and use of good traffic incident management. Effective transportation system management and operations depends on the aggressive management of temporary disruptions (caused by traffic incidents, work zones, weather, special events, etc.) in order to reduce the consequences of these disruptions and return the system to "full capacity."

The Incident Command System (ICS) is the systematic tool for the command, control, and coordination of an emergency response. ICS allows agencies to work together using common terminology and operating procedures for controlling personnel, facilities, equipment, and communications at an incident scene.

The purpose of this Simplified Guide is to introduce the ICS to stakeholders who may be called upon to provide specific expertise, assistance, or material during highway incidents but who may be largely unfamiliar with ICS organization and operations. These stakeholders include transportation agencies and companies involved in towing and recovery, as well as elected officials and government agency managers at all levels. This document may also be beneficial to public safety professionals, who are familiar with ICS but may not fully understand how ICS concepts are applicable to transportation agencies.

The ICS is considered part of the broader incident management system as outlined in the Department of Homeland Security's National Incident Management System (NIMS). NIMS covers the entire incident management process, including command structures like ICS as well as preparedness activities, resource management, and communications and information management.

As you read through this document, please take the time to consider how you, your agency, and your transportation partners can communicate, cooperate, and coordinate with your region's public safety agencies to ensure that when a traffic incident occurs, it is resolved quickly and effectively. As a first step, please share this document with your partners. This Simplified Guide is one of a series of products prepared by the FHWA Office of Operations to arm transportation professionals with the information and tools they need to work with their partner agencies at the incident scene.

Jeffrey F. Paniati
Associate Administrator for Operations
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CHAPTER 1

Introduction

The **Incident Command System** (ICS) is a systematic tool used for the command, control, and coordination of an emergency response. ICS allows agencies to work together using common terminology and operating procedures for controlling personnel, facilities, equipment, and communications at a single incident scene.

The purpose of this Guide is to introduce ICS to stakeholders who may be called upon to provide specific expertise, assistance, or material during highway incidents but who may be largely unfamiliar with ICS organization and operations. These stakeholders include professionals at transportation agencies, companies involved in towing and recovery, as well as elected officials and government agency managers at all levels.



This document may also be beneficial to public safety professionals, who are familiar with ICS but may not fully understand how ICS concepts are applicable to transportation agencies.

The need for familiarity with ICS is growing. Emergency services are already well accustomed to using ICS for all types of incidents, and other agencies are becoming more comfortable with ICS, in part due to the increasing deployment of joint operations.

Transportation agencies are an integral part of ICS because of their role in monitoring and controlling traffic flow in response to a disruption in roadway system operations. Private towing companies play an indispensable role in incident removal and restoring the affected road section back to normal operation. While these stakeholders have a prominent role in day-to-day highway incident management, they may require a more substantive understanding of their function under an established ICS—particularly one in which a multiagency team of responders provides for the command, control, and coordination of resources at the scene of a highway incident.

Glossary Terms:
Chain of Command
Command
First Responder
Incident Action Plan
Incident Commander
Incident Command System
National Incident Management System
Resource Management
Single Command
Span of Control
Unified Command
Unity of Command

The material in this Guide is based largely on the Department of Homeland Security's **National Incident Management System** (NIMS) and on the *Model Procedures Guide for Highway Incidents* developed by the National Fire Service Incident Management System Consortium. Homeland Security Presidential Directive 5 (HSPD-5), "Management of Domestic Incidents," requires all Federal departments and agencies to make adoption of the NIMS by State, tribal, and local organizations a condition for Federal preparedness assistance beginning in fiscal year 2005. Adopting the basic tenets of ICS is one of the first steps to achieve compliance with the NIMS.

Background

Highway incidents disrupt the normal operation of the transportation system. These events require a short-term response by one or more agencies for the purpose of rescue, control, and/or mitigation (see Exhibit 1-1 for examples). Highway incidents happen at random with little or no advance warning. They vary widely in severity, from a minor crash involving a single agency response (e.g., law enforcement or service patrol), to a natural disaster or other catastrophe that requires a multiagency response across jurisdictions and disciplines. Responders often have numerous responsibilities at the scene of an incident, addressing victim injuries, property and infrastructure damage, responder safety, and traffic flow. A highway incident can also contribute to problems away from the scene, including congestion delay, the occurrence of secondary incidents, and other threats to public safety.

A range of agencies, departments, organizations, and individuals may be called to respond to incidents on the highway. The motives, missions, and methods vary among each member of a regional response force. Nevertheless, they are called to work together with little notice and compelled by circumstances to manage stressful and dangerous problems in what is often a hazardous working environment.

Incident responders face many potential challenges to achieving effective on-scene response operations, sometimes in the face of shifting needs of the emergency. Limited initial information about an incident can impede the ability of responders to involve agencies with needed expertise and authority. Failure to secure timely and appropriate towing and recovery services may lead to vehicles, cargo, and other obstructions being left on the roadway longer than necessary. Insufficient attention to traffic disruptions may contribute to congestion delay and poor communication with motorists approaching the scene. Other factors, such as resource constraints or poor coordination across jurisdictional boundaries, can hinder incident response efficiency. Thus, the nature of the response itself can influence the aftermath of the highway incident, affecting the safety of victims, responders, and the public.

The successful and safe resolution of highway incidents requires completion of many distinct activities, each of which is the priority of a specific agency or response crew. Interagency coordination and collaboration are therefore critical, such that responders cultivate a working trust with one another, transfer command and control when necessary, and ensure sufficient on-scene resources exist at all times. To achieve this, responders must collectively follow an approach that is based on regional coordination and

Exhibit 1-1: Examples of Highway Incidents

Traffic Incident	<ul style="list-style-type: none"> • Vehicle disablement • Crash • Cargo spill • Debris on road • Hazardous material spill
Non-traffic Incident	<ul style="list-style-type: none"> • Industrial accident • Bridge collapse • Emergency road work

cooperation. Implementation of a formal management process can help eliminate ambiguity in command and control, improve resource coordination and communications, and facilitate the application of local-level incident management procedures.

Emergency	<ul style="list-style-type: none"> • Natural disaster • Wildfire • Human-caused catastrophe
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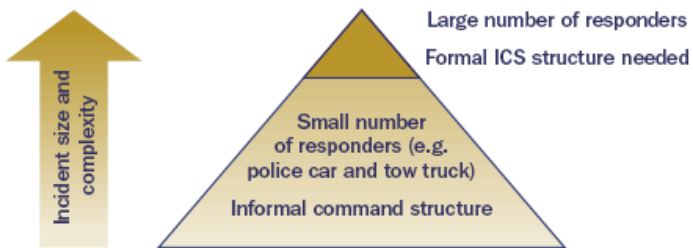
Many jurisdictions across the country have begun to incorporate ICS into everyday traffic incident response and removal activities. A Federal Highway Administration (FHWA) survey of agencies in the 75 most populous U.S. metropolitan areas indicates that nearly two-thirds of the surveyed agencies use ICS to manage traffic incidents. More than half note the presence of a State law or formal policy that designates the **Incident Commander** (person in charge) at the scene of a traffic incident (see Exhibit 1-2).

Exhibit 1-2: FHWA 2002 Survey on ICS Use

- 64% of surveyed agencies indicate an ICS is used on-scene to manage traffic incidents in their jurisdiction.
- 18% of surveyed agencies report state law mandates use of an ICS, and 46 percent state ICS use is specified through an interagency agreement.
- 18% of surveyed agencies indicate an ICS is not used in their jurisdiction.
- 52% of surveyed agencies report the existence of a State law or formal agreement as to who is in charge at the scene of a traffic incident (Incident Commander):
 - Law enforcement (exclusive) = 46%.
 - Fire department (exclusive) = 20%.
 - Law enforcement or fire department (e.g., based on ranking officer, jurisdiction, or incident severity) = 16%.
 - Fire department / transportation agency = 2%.

The use of ICS for day-to-day highway incident management activities has numerous benefits. ICS helps communities facilitate a more consistent response to any highway incident by employing a common organizational structure that can be expanded or contracted in a logical manner based on the level of required response. It defines responder roles and responsibilities, and establishes a clear decision-making process. It accommodates any responding agency, regardless of jurisdiction or discipline, and minimizes redundancy in roles, thereby optimizing resource deployment. ICS also provides effective two-way communication between response personnel, facilitating improved interagency coordination while reducing the overall communications load associated with highway incident response.

Exhibit 1-3: Highway Incidents Requiring Formal Use of ICS



In reading this Guide, it is important to keep in mind that the vast majority of highway incidents are relatively minor and do not require formal implementation of the ICS, as illustrated schematically in Exhibit 1-3. During minor highway incidents, which often involve just a police officer and a tow truck, there is usually no need for the organization and command structure of the ICS described in this Guide. It is only larger and more complicated incidents that necessitate ICS because they involve multiple responders, often from multiple agencies. However, it is important for all potential responders to understand ICS so that on occasions when it is needed, all responders can smoothly and efficiently participate.

Incident Command System: An Overview

ICS was originally developed in the 1970s by fire services in California and Arizona as a management method to clarify command relationships for large-scale incidents. Although it was originally developed to address fires, the ICS concept is now being applied to other types of incidents, including highway incidents. The overarching goal of ICS is to foster a Federal, State, and local cooperation with maximum flexibility for achieving strategic goals. ICS builds on the foundation of existing traffic incident and emergency management plans, systems, and capabilities to expand their applicability to a wider range of highway incidents.

NIMS and ICS

ICS is typically considered part of the broader Incident Management System outlined in NIMS. ICS refers to the command and control protocol at the highway incident scene. NIMS covers the entire incident management process, including command structures like ICS as well as preparedness activities, **resource management**, and communications and information management. These differences are discussed in more detail in Chapter 4.

A basic premise of ICS is that it is widely applicable. It is used to organize both short-term and long-term field-level operations for a broad spectrum of highway and other incidents, from minor traffic incidents to complex emergencies, both natural and manmade. Used by all levels of government, as well as by many private sector and nongovernmental organizations, ICS is applicable across disciplines. The ICS paradigm is well suited for joint use by law enforcement, fire and rescue, emergency medical services, hazardous materials (HAZMAT) specialists, traffic management, repair and maintenance, utility, towing and recovery, public works, motorist assistance, and other types of organizations working on the highway.

When applied during a highway incident response, ICS:

- Supports the systematic development of a complete, functional organization.
- Allows for multiagency adoption by Federal, State, and local fire and emergency agencies.
- Incorporates non-public safety responders, such as transportation, into the organization.
- Uses organizational terminology designed to be acceptable to all levels of government.
- Acts as the basic operating system for all highway incidents within each jurisdiction.

During incident response, ICS allows the transition to large and/or multiagency operations with only minimal adjustment for the agencies involved. While the ICS structure may be small initially, its flexibility allows the structure to expand and adapt to real-time conditions at the scene. If the incident grows in size and/or complexity, individuals in addition to the Incident Commander may be appointed to oversee their functional units to maintain a reasonable **span of control** and level of efficiency.

Exhibit 1-4 illustrates the stakeholders that may participate in highway incident management activities and the duties and responsibilities that may be associated with each stakeholder. Law enforcement agencies are often the first to arrive at the incident scene, performing **first responder** duties, establishing emergency access routes, and controlling the arrival and departure of other responders. Fire and rescue agencies are needed at incidents that involve victim rescue, fire extinguishing, or hazardous materials release. They may be supported by emergency medical services (EMS) if the incident involves injuries. Transportation agencies perform a variety of duties related to traffic operations, motorist information, emergency roadwork, and incident clearance, as well as the first responder duties of highway service patrols. Finally, towing and recovery companies recover and remove vehicles, cargo, and other debris from the scene.

ICS Management Characteristics



Time and experience have shown the value of integrating highway incident response agencies into one operational organization, managed and supported by one command structure. In part, this experience is based on the successful use of key management concepts, adapted and applied to the discipline of highway incident response. ICS employs a common terminology to facilitate communication among diverse incident management and support entities working together across a variety of incident management functions and hazard scenarios.

ICS requires that one or more individuals maintain authority over all incident activities, known as the **Command** function. During minor highway incidents, which often involve just a police officer and a tow truck, the command structure is informal. A single person can typically perform the command function, called the Incident Commander. The formal use of ICS becomes more critical during major highway incidents, which involve multiple agencies (such as those shown in Exhibit 1-4). In these cases, more than one person often performs the command function, called **unified command**.

Exhibit 1-4: Highway Incident Management Stakeholders and Associated Duties and Responsibilities

Stakeholder	Duties and Responsibilities	
Law enforcement	<ul style="list-style-type: none"> • Secures incident scene • Performs first responder duties • Assists responders in accessing the incident scene • Establishes emergency access routes • Controls arrival and departure of incident responders 	<ul style="list-style-type: none"> • Polices perimeter of incident scene and impact area • Conducts crash investigation • Performs traffic control • Assumes role of Incident Commander, if appropriate • Supports unified command, as necessary
Fire and rescue	<ul style="list-style-type: none"> • Protects incident scene • Rescues/extricates victims • Extinguishes fires • Responds to and assesses incidents involving a hazardous materials release 	<ul style="list-style-type: none"> • Contains or mitigates a hazardous materials release • Assumes role of Incident Commander, if appropriate • Supports unified command, as necessary
Emergency medical services (EMS)	<ul style="list-style-type: none"> • Provides medical treatment to those injured at the incident scene • Determines destination and transportation requirements for injured victims 	<ul style="list-style-type: none"> • Transports victims for additional medical treatment • Supports unified command, as necessary
Emergency management agency	agency <ul style="list-style-type: none"> • Coordinates government response and resources • Provides technical expertise • Provides evacuation recommendations • Facilitates communication and coordination across jurisdictions 	<ul style="list-style-type: none"> • Coordinates response from other State and Federal agencies • Assumes role of Incident Commander, if appropriate • Supports unified command, as necessary
Transportation agencies, including: <ul style="list-style-type: none"> • Highway maintenance • Service patrols • Traffic incident response teams • Transportation management center (TMC) 	<ul style="list-style-type: none"> • Protects incident scene • Implements traffic control strategies and provides supporting resources • Monitors traffic operations • Disseminates motorist information • Mitigates incidental vehicle fluid spill confined to the roadway • Assesses and directs incident clearance activities • May perform first responder duties (service patrol) 	<ul style="list-style-type: none"> • Clears minor incident (service patrol) • Performs incident detection and verification (service patrol/TMC) • Develops and operates alternate routes • Assesses and performs emergency roadwork and infrastructure repair • Assumes role of Incident Commander, if appropriate • Supports unified command, as necessary
Towing and recovery	<ul style="list-style-type: none"> • Recovers vehicles and cargoes • Removes disabled or wrecked vehicles and debris from incident scene 	<ul style="list-style-type: none"> • Mitigates non-hazardous material (cargo) spills • Supports unified command, as necessary

Unified command refers to the application of ICS when there is more than one agency with incident jurisdiction or when incidents cross political jurisdictions. When a highway incident affects a single jurisdiction and requires the response and resources of a single agency, one ranking responder typically assumes **single command**. However, when a highway incident affects multiple jurisdictions or results in jurisdictional authority by multiple agencies, unified command provides the opportunity for all agencies that have statutory authority for an incident to jointly participate in the development of the overall response strategy (e.g., law enforcement, fire services, and highway patrol).

Once command has been established, ICS establishes clear rules for the transfer of command to another individual or individuals. The ICS organization is characterized by an orderly line of authority, termed **chain of command**. The concept of **unity of command** means that every individual has one and only one designated supervisor to whom that individual reports at the incident scene. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives.

A key feature of ICS is the use of modular organization. This means that the individuals involved in the incident response are organized into units (termed sections, branches, divisions, groups, etc.). Modular organization allows the response team to be structured in a way that is appropriate given its size and complexity. It also allows the organization to expand from the top down as incident complexity increases and functional responsibilities are delegated. ICS establishes five functional areas for management of major incidents: command, operations, planning, logistics, and finance/administration. Span-of-control recommendations are followed closely, so the organizational structure is never larger than required.

Finance/Administration. Span of control recommendations are followed closely, so the organizational structure is never larger than required.

Large scale or complex incidents require use of a written **Incident Action Plan**. An Incident Action Plan describes the overall strategy for managing an incident. It describes an organized course of events necessary to address all phases of incident control within a specific time. It may include the identification of operational resources and assignments, and attachments that provide direction and other important management information.

Comprehensive resource management helps to maintain an accurate and up-to-date picture of the use of personnel, teams, equipment, supplies, and facilities available or potentially available for assignment. An integrated communications approach develops and uses a common communications plan and interoperable communications processes. This approach links the operational and support units of the various agencies involved in incident response and helps maintain communications connectivity and discipline.

Guide Organization

The remainder of this Guide is organized as five chapters:

- Chapter 2 presents an overview of the ICS organizational structure.
- Chapter 3 describes the characteristics and structure of unified command, representing the typical command function structure for managing a multiagency and/or multijurisdictional response to highway incidents.
- Chapter 4 presents strategies and tools that support a stakeholder effort to develop an ICS framework for day-to-day highway incident management. It also summarizes NIMS requirements for resource management, communications, and information management.
- Chapter 5 presents ICS implementation considerations for the on-scene management of highway incidents. It describes incident characteristics, resource requirements, decision criteria, and response actions that influence the scope of ICS required for highway incident management operations.
- Chapter 6 summarizes the benefits of ICS and suggests some next steps that transportation stakeholders can take to more fully integrate ICS into incident management activities.

A glossary of key terms is included at the end of the guide. Glossary terms are shown in bold when they first appear in the text and are listed at the start of the chapter in which they first appear.

CHAPTER 2

ICS Organizational Structure

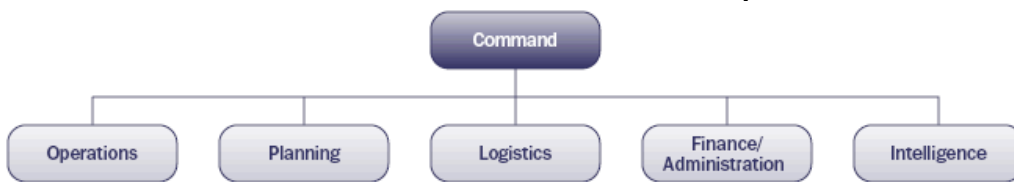
This chapter provides more details on the organizational structure of ICS and its role throughout the life cycle of a highway incident. It describes the organizational levels that comprise ICS, focusing on their functional definition, distinguishing characteristics, and relationship to other elements in the structure.

This chapter is intended to provide highway incident practitioners with a working knowledge of the various roles and responsibilities of key responding personnel and the ICS chain of command considerations that govern agency interrelationships at the scene of a highway incident. It is important to note that a highway incident can require the assignment of transportation personnel to any part of the ICS organization. This can range from a single service patrol providing support to a transportation agency in command of the incident response (e.g., to perform highway incident clearance functions or towing and recovery functions).

Functional Structure

NIMS specifies an ICS organization consisting of five major functions: Command, Operations, Planning, Logistics, and Finance & Administration. A sixth function, Intelligence, is sometimes added to an ICS organization in response to the NIMS guideline that an ICS must establish a process for gathering, sharing, and managing incident-related information and intelligence. Exhibit 2-1 illustrates these functional areas.

Exhibit 2-1: Basic Functional Structure of an Incident Command System



Responsibilities in each functional area include:

- Command—provide on-scene management and control authority
- Operations—direct incident tactical operations
- Planning—prepare Incident Action Plan and maintain situation and resources status
- Logistics—provide services and support to the incident
- Finance and Administration—track incident costs and account for reimbursements
- Intelligence—provide analysis and sharing of information and intelligence during the incident

Each functional area under Command is known as a **Section**. The complexity of the highway incident influences the number of sections established, if any. Regardless of highway incident complexity, first responders must always establish command upon their arrival on-scene. Therefore, Incident Command represents the first ICS organizational element established in any highway incident. The size and complexity of the ICS organization that then evolves from Incident Command depends on the number of operations functions and assisting agencies providing tactical, service, and support resources. Organization becomes more important as leaders add resources.

Full deployment of the ICS functional structure at highway incidents is rare. The vast majority of highway incidents require only a small ICS organization, often consisting of an Incident Commander (e.g., a police officer) supervising a few resources (e.g., a tow truck). ICS at these small

Glossary Terms:

- Agency Representative
- Branch
- Chief
- Command Staff
- Director
- Division
- Finance and Administration Section
- General Staff
- Group
- Intelligence Section
- Leader
- Liaison Officer
- Logistics Section
- Operations Section
- Planning Section
- Public Information Officer
- Resource
- Safety Officer
- Section
- Strike Team
- Supervisor
- Task Force

Incidents is practiced informally, without establishing sections. More complicated highway incidents require a large ICS organization in order to meet span-of-control guidelines. Span of control refers to the maximum number of individuals that one supervisor can manage effectively. NIMS ICS guidelines specify span of control should range from three to seven individuals, with five representing the normal level. The size of the ICS organization should not exceed the size required to meet the operational objectives of getting the job done.

The evolution of ICS organization at highway incidents occurs in a modular, top-down management fashion. Incident Command initially has complete responsibility and performs section duties until sections are formed. Once new organizational elements are created, the newly appointed chiefs or directors acquire operations tasks and management responsibilities from Command. In turn, these leaders may delegate new and/or existing tasks and responsibilities to leaders of new organizational elements (e.g., divisions/groups, resources). Span-of-control guidelines drive the expansion and contraction of ICS organizations. Exhibit 2-2 shows the titles used for the leaders of each possible ICS organizational element.

Exhibit 2-2: ICS Organizational Elements and Corresponding Leadership Titles

Organizational Element	Leadership Title
• Incident Command	• Incident Commander or Unified Command
• Command Staff	• Officer
• General Staff (section)	• Chief
• Branch	• Director
• Division / Group	• Supervisor
• Unit*	• Leader
• Strike Team / Task Force	• Leader

* Refers to units assigned to the Planning, Logistics, and Finance and Administration Sections only

Command Function

Command represents a function, not a person. The Command function is carried out by an Incident Commander (IC) or Unified Command (UC). For large-scale incidents, the IC or UC is supported by **Command Staff**. The IC or UC performs the duties exclusive to Command and, if necessary, establishes Command Staff positions to delegate specific management tasks that do not pertain to any of the individual sections. These positions can include Public Information Officer, Safety Officer, and Liaison Officer. The leaders of individual sections, known collectively as the **General Staff** and individually as **Chiefs**, report directly to the IC or UC, or a Command designate.

The ranking first responder assumes the position of IC upon arrival on-scene, thus establishing Command before any other element. In some states, a state DOT unit establishes Command if that unit arrives first on scene. Although the person in charge of the state DOT unit may not be qualified to command emergency units, that person nonetheless establishes Command, and Command will likely be transferred to someone from law enforcement or fire when those units arrive. In other states, state DOTs may be prohibited by law or liability requirements from establishing Command. In these instances, formal Command is not established until the arrival of a qualified unit. The participation of the state DOT in Command must be addressed on a state-by-state basis, and should be discussed among all potential responding agencies during advance planning activities (see Chapter 4).

Throughout an incident, Command determines the size of the ICS organization needed to respond to and mitigate the effects of a highway incident. This involves decisions on who to involve and subsequently release from duty. Command considers the following three major priorities when identifying assisting agencies and structuring the ICS organization:

- Life Safety—protect emergency responders, incident victims, and the public.
- Incident Stability—minimize incident effects on the area surrounding the scene and maximize the response effort while efficiently using resources.
- Property Conservation—minimize damage to property while achieving the established incident objectives.

The on-scene IC or UC must maintain a “big picture” perspective of the incident in order to set objectives and strategies that collectively delineate a course of action. Hence, a key responsibility of the IC or UC involves obtaining early and frequent input from all assisting agencies and responders. This allows the IC or UC to understand the role and capabilities of assisting agencies, responding resources, and the impending effects of the incident on transportation operations and public safety.

From the perspective of transportation, achieving early Command awareness and coordination of available transportation and towing & recovery assets can help to ensure effective traffic control and incident removal. Another potential action for Command involves establishing a communications link to an area TMC.

Exhibit 2-3: Responsibilities of the IC or UC

<ul style="list-style-type: none"> • Assume and announce Command • Possess clear authority and knowledge of agency policy • Ensure incident safety • Establish an Incident Command Post • Determine incident objectives and strategies to be followed • Establish immediate priorities • Initiate, maintain, and control the communications process within the ICS organization 	<ul style="list-style-type: none"> • Manage planning meetings as required • Approve, implement, and evaluate the Incident Action Plan • Coordinate activity for all Command and General Staff • Approve requests for additional resources or for the release of resources • Approve the use of volunteer and auxiliary personnel • Authorize the release of information through the Public
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- Analyze intelligence information
- Establish the size of ICS organization needed and monitor the effectiveness of that organization
- Coordinate multi-jurisdictional traffic management and control operations

- Information Officer
- Order demobilization of the incident when appropriate
 - Ensure completion of incident after-action reports

Command Methods

The duties and responsibilities of the Command function can be performed either as Single Command or Unified Command. The selection of one method over the other depends on issues of legal or functional jurisdiction. The Command function is conducted under Single Command if the incident does not overlap jurisdictional or functional agency boundaries. One ranking person has management and control authority over the incident, and this designated Incident Commander sets the incident objectives and ensures that all functional areas work to accomplish these objectives. The Unified Command method employs multiple ranking personnel that collectively perform the Command function. Two or more people from different agencies on-scene set the incident objectives and develop the Incident Action Plan. Unified Command is typically used when an incident affects more than one political jurisdiction, involves multiple geographic agencies within a single jurisdiction, or involves multiple functional agencies within a single jurisdiction (e.g., law enforcement and fire). Chapter 3 discusses the characteristics of Unified Command in greater detail.

Note that there are differences between states in terms of command methods. Some states require use of UC, while other states recommend specific agencies that should control and direct on-scene tactical operations under Single Command. Eastern states typically place a responding fire service in command; western states often mandate a highway patrol representative as the IC.

In some instances, an Incident Commander may designate a deputy Incident Commander for the purpose of performing tasks assigned by the Incident Commander, working in relief of the Incident Commander, or representing a single assisting agency that factors prominently in the incident response. Any personnel considered for the position of deputy Incident Commander should have qualifications equivalent to the Incident Commander and be ready to assume the position of Incident Commander at any time.

Command Staff

The Command Staff performs or supports the duties and responsibilities of the Command function. In less complex incidents, the IC or UC may have sufficient time to single-handedly carry out tasks pertaining to information dissemination, safety monitoring, agency coordination, and resource monitoring. However, as an incident increases in complexity, the role of the IC or UC evolves from hands-on activities to overall scene management and command. Increasing responsibilities drain the IC's or UC's time required for effective management. As a result, the IC or UC may designate one or more Command Staff positions to perform various management activities critical to the success of the response effort. These Command Staff positions include the Public Information Officer, Safety Officer, and Liaison Officer.

The **Public Information Officer** maintains responsibility for all interaction between Command and the media and coordinates the release of information on the situation and response efforts. The majority of public interaction involves broadcast media and company representatives that provide some traffic advisory service. Commonly requested information, in decreasing order of interest, includes:

- Geographic location of the incident, number of blocked lanes, and extent of scene perimeter
- Traffic flow at the incident scene and upstream conditions
- Estimated duration of travel lane blockage and incident operations through cleanup
- Key instructions for motorists approaching the incident scene
- Description of specific incident characteristics (e.g., injuries/fatalities, number and type of vehicles involved, assisting agencies, current situation) and cause

A large-scale operation might necessitate establishment of a Joint Information Center, which is typically located at the site of a state or local agency Emergency Operations Center. The Public Information Officer serves as the on-scene liaison to the Joint Information Center. The Joint Information Center functions as a physical location where public affairs professionals from every agency involved in incident management activities can perform their duties. Note that some agencies may have their own public information officers on-scene. It is important that all information to the public be coordinated through the Command Staff Public Information Officer so as to avoid release of conflicting information about the incident.

Only one Public Information Officer exists in the ICS organization regardless of whether the Command function operates as Single Command or Unified Command. However, a Public Information Officer may designate assistants who may represent other assisting agencies or jurisdictions. For instance, an Assistant Public Information Officer could be staffed at a TMC to ensure that all transportation and incident information received is validated and routed to all appropriate responders and affected motorists via TMC-controlled electronic roadside information devices or telephone information systems.

The **Safety Officer** has responsibility for monitoring on-scene safety conditions and developing measures to ensure the safety of all assigned personnel. One of the most significant potential safety hazards to be considered by the Safety Officer is the flow of traffic past an incident scene. This hazard is complex and dynamic as a result of changing traffic volume, weather/visibility at the scene, flashing lights at night, the number of on-scene responders, incident effects on highway capacity, and deployment of traffic control strategies. The Safety Officer has emergency authority to alter activities in order to stop or prevent unsafe acts. The Safety Officer also reviews the Incident Action Plan for safety implications and can recommend changes to the IC or UC as necessary.

Only one Safety Officer exists in the ICS organization, but the Safety Officer may designate assistants who represent either the same or another assisting agency or jurisdiction. If traffic queuing extends a long distance from a highway incident, it is important that the Safety Officer designate one or more assistants to observe and assess traffic control measures at various locations both in and around the incident scene to ensure safe conditions for those waiting in the queue.

The **Liaison Officer** acts as the on-scene contact point for representatives of assisting agencies assigned to the incident. The Liaison Officer assists in establishing and coordinating interagency contacts, and maintains a list of assisting agencies and corresponding **Agency Representatives**. For example, the Liaison Officer may facilitate interagency coordination, including the exchange of timely and accurate information, in deploying an alternate route for diverting traffic around the incident scene. Only one Liaison Officer may exist, but the Liaison Officer may designate assistants who represent either the same or another assisting agency or jurisdiction.

Although not part of the ICS organization, Agency Representatives are individuals designated by assisting agencies for the purpose of making authoritative decisions on matters affecting the agency's participation at the incident. They report directly to the IC/UC or designated Liaison Officer. An Agency Representative ensures that all agency personnel and equipment resources have checked in, and might advise the Liaison Officer of special needs or requirements. An Agency Representative might also be charged with providing periodic status reports to agency dispatch or

headquarters.

A major incident response team represents an example of a predesignated group of Agency Representatives. The response team is available for 24/7 response to a major highway incident. Its composition of senior-level representatives from commonly affected agencies allows team members to manage and command resources from their associated agencies without having to obtain approval from higher-ranking officials.

Operations Section

The **Operations Section** performs all incident tactical operations. The activities of the Operations Section respond to key priorities such as life safety, incident stability, property conservation, and restoration of normal highway operations. Organizational elements of the Operations Section will exist whenever ICS is established at a highway incident.

Exhibit 2-4 illustrates the levels of the full Operations Section organizational hierarchy. The smallest organizational unit is called a **Resource**, such as a personnel crew or single piece of equipment. If necessary, resources can be organized into functional **Groups** or geographic **Divisions**. For very large incidents, divisions/groups can be organized under multiple **Branches**.

The Operations Section and its constituent organizational elements develop as required. Incident complexity and span-of-control considerations guide whether the IC or UC: (1) directly manages divisions/groups or resources, (2) establishes branches to consolidate divisions and/or groups for sub-management when span-of-control limits are exceeded, or (3) establishes an Operations Section and delegates an Operations Section Chief who, in turn, establishes organizational elements within the section when the number of resources exceed the span of control of the Chief. Exhibit 2-5 lists the responsibilities of the Operations Section Chief. If traffic management or incident clearance activities are the focus of incident operations (e.g., an incident involving a non-hazardous cargo spill with no injuries or threats to public safety), then the IC/UC may opt to assign the ranking transportation responder to the position of Operations Section Chief.

Exhibit 2-4: Major Organizational Elements of Operations Section

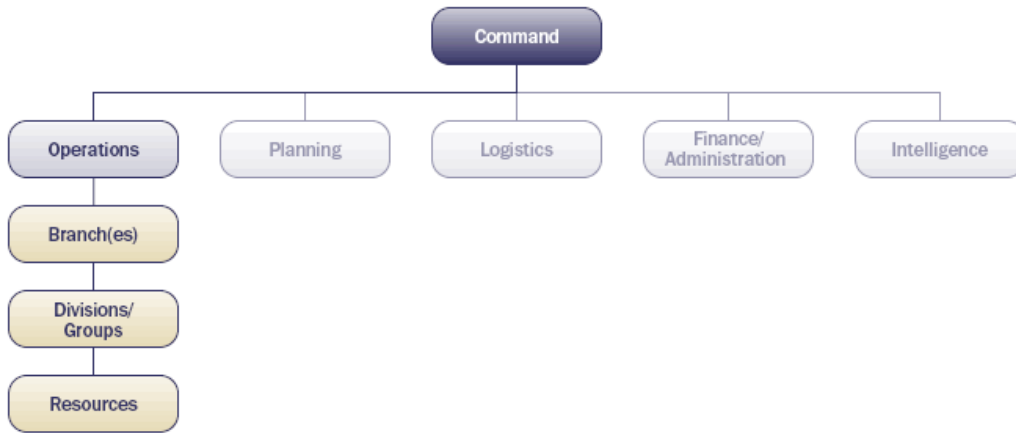


Exhibit 2-5: Responsibilities of the Operations Section Chief

- | | |
|---|---|
| <ul style="list-style-type: none">• Manage tactical operations• Ensure safety of Operations Section personnel• Ensure interagency coordination and collaboration• Assist in developing the operations response objectives and strategies of the Incident Action Plan• Supervise the execution of the operations portion of the Incident Action Plan• Maintain close contact with subordinate positions | <ul style="list-style-type: none">• Request additional resources to support tactical operations through the IC or UC• Approve release of resources from active assignments (not from incident) through the IC or UC• Make or approve expedient changes to the Incident Action Plan as necessary• Ensure the Operations Section operates effectively and within span-of-control limits• Assemble and disassemble Task Forces and Strike Teams assigned to the Operations Section• Provide the IC or UC with situation and resource status reports within the Operations Section |
|---|---|

Divisions and Groups

Divisions and groups are organizational elements that divide the ICS into geographic areas and functional areas of operation, respectively. As illustrated by Exhibit 2-6, divisions organize resources on the basis of separations in terrain, geography, or fueling locations. Alternatively, groups organize resources based on major operations functions performed by a group's collective resources, such as medical equipment or fire control instruments, as illustrated in Exhibit 2-7. An IC/UC, Operations Section Chief, or Branch Director may supervise any combination of divisions and groups as these organizational elements co-exist on the same level within the ICS chain of command. One Division or Group **Supervisor** must be assigned to manage each established division or group, and the supervisor reports directly to the next higher level supervisor in the ICS organization chain of command. Key responsibilities of a Division or Group Supervisor include: (1) implementing the portion of the Incident Action Plan applicable to the division or group, (2) assigning resources within the division or group, and (3) monitoring the progress of operations activities and resource status within the division or group.

Divisions and groups are appropriate organizational elements for managing transportation resources that are performing traffic management and control at highway incidents. A Traffic Management Division would manage transportation resources that facilitate traffic management activities within a well-defined geographical portion (e.g., roadway facility, travel direction, access point, intersection) of the highway incident. Multiple divisions might exist to support evacuation route operations during an incident. Alternatively, a set of select traffic control resources that support a specialized traffic service can be consolidated under a single group within the ICS. Traffic Control Groups prove useful in supporting a dynamic or unstable incident situation where resources may require rapid relocation across geographical divisions in response to changing highway conditions. A single Traffic Control Group might include, for example, traffic control resources required to implement an alternate route.

Exhibit 2-6: Use of Geographical Divisions (Example)

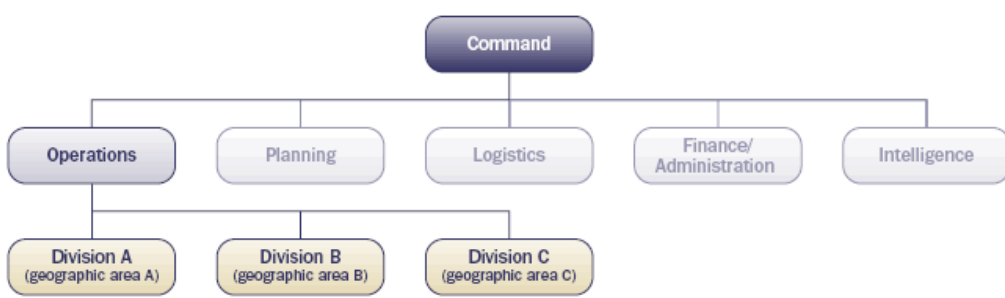
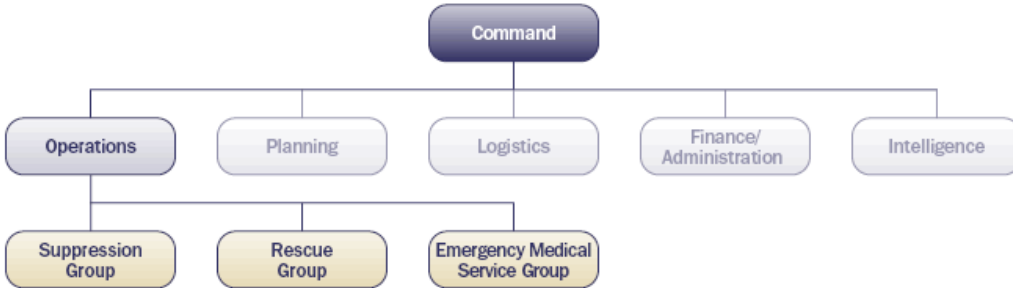


Exhibit 2-7: Use of Functional Groups (Example)



Branches

The IC/UC or Operations Section Chief may establish branches when the number of divisions and groups exceeds the span-of-control limit. The chief or IC/UC might also establish branches as a response to an increasingly complex incident (e.g., changing incident characteristics, level of response, and traffic/weather conditions) in order to facilitate efficient management of resources required for multiple operations activities. An example of a situation that commonly warrants the use of ICS branches is an incident with concurrent response activities in two or more distinct operations (e.g., hazardous materials, fire, medical, road/infrastructure repair, law enforcement).

Branches are commonly organized according to geography, function (e.g., by assisting agency), or jurisdiction (e.g., city, county, State, Federal). Each assigned branch is managed by a designated **Director** responsible for implementing the portion of the Incident Action Plan applicable to the branch. Highway incidents that necessitate numerous, complex traffic management and control activities may result in the IC/UC or Operations Section Chief consolidating Traffic Management Divisions and Traffic Control Groups under a separate Traffic Operations Branch.

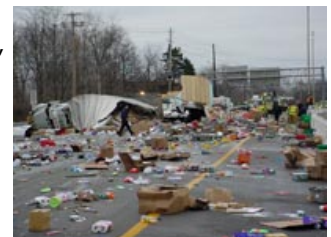
Resources

A single tactical resource can be a personnel crew or piece of equipment assigned to perform a specific tactical operation at an incident. Equipment resources also include the personnel required for equipment operation and maintenance. One service patrol unit is an example of a single tactical resource. Resources accomplish operations activities by stabilizing and removing a highway incident and mitigating its effects.

As the number of on-scene resources increases, management of single resource elements becomes critically important to the success of the overall operations effort. Two types of organizational elements for managing single resources are **Task Forces** and **Strike Teams**. These organizational elements exist on the same level, below divisions and groups in an ICS organization chain of command. One or multiple assisting agencies may supply individual resources within a particular task force or strike team. Both task forces and strike teams must have: (1) a designated **Leader**, (2) capability to communicate with other resources and with the leader, (3) its own transportation, and (4) an operation within the limits of the span of control. The two elements differ in their permanence and the type of resources that compose them. A Task Force is any combination of resources that is temporarily assembled for a specific mission. Once the tactical need is met, the Task Force is disassembled into single resources or reorganized into another Task Force configuration. A Strike Team, however, is a set number of resources of the same kind (function) and type (performance capability).

Task forces contain a combination of single resources assembled for executing a specific operations mission. Strike teams contain multiple single resources of the same kind (function) and type (performance capability). Since each resource in a strike team has the same capability, the establishment of strike teams allows for improved operations planning and management of major incidents that require multiple responding resources. Example strike teams include a group of dump trucks, sign trucks, barricade units, or repair crews.

An example of a transportation operations mission for a task force is traffic control. A Traffic Control Task Force would consist of different resources organized for the purpose of implementing and operating a roadblock, checkpoint, merge, or taper (a transition zone in advance of a reduction in roadway width). An example of a strike team performing transportation operations would be several barricade trucks working to seal the perimeter of an incident scene. Task forces and strike teams comprised of transportation resources may benefit from the inclusion of a law enforcement unit for the purpose of expediting response to the scene and facilitating point traffic control as necessary.



Depending on the composition of designated organizational elements within the ICS, the Task Force/Strike Team Leader may report directly to the IC/UC, the Operations Section Chief, or a Division or Group Supervisor. Resource tracking requires that each responding resource have an assigned status condition. Standard resource status conditions include:

- Assigned—performing active operational function.
- Available—ready for immediate assignment.
- Out-of-Service—not ready for assigned or available status because of mechanical, personnel rest, or operational cost issues.

Given a current incident situation, the status of a particular resource may be changed by the IC/UC, Operations Section Chief, or Division/Group Supervisor depending on ICS configuration. The supervisor assigned to control a resource may only maintain and update its status condition, not change it. The Resources Unit Leader in the Planning Section (to be discussed in the next section) must receive notification of any changes in resource location or status. However, the Resources Unit Leader possesses no authority to order a change in the status of any resource.

Other Sections

As many as four other sections can be established within the ICS organization—Planning, Logistics, Finance and Administration, and Intelligence. In many incidents, the responsibilities of these sections will be practiced informally under the Command function. Even many large highway incidents don't expand beyond creation of an Operations Section. Situations that might require establishment of other sections during a highway incident include a large hazardous material spill or an extended incident situation (e.g., multiple vehicle crashes due to fog over a large section of highway). Only very large incidents require the formal establishment of all five ICS sections. When they are established, transportation agencies often play a key role in the Planning and Logistics Sections.

Planning Section

The **Planning Section** functions to maintain resource status and situation status, assist in development of the Incident Action Plan (see Chapter 5 for details), and provide technical specialists. A central function of this section involves the collection and evaluation of operational information about the incident, including the current and forecasted situation and the status of assigned resources. This information is needed to understand the current situation, predict a probable course of incident events, and prepare alternative strategies for mitigating incident effects.

During a highway incident, the Planning Section often relies heavily on transportation data. Electronic equipment for traffic detection, surveillance, and control provides real-time traffic information that is critical to traffic managers for developing strategies to mitigate the effects of highway incidents. Example strategies include the implementation of alternative traffic signal timing plans and dissemination of traveler information via changeable message signs, highway advisory radio, or telephone information systems (e.g., 511).

Exhibit 2-8: Responsibilities of the Planning Section Chief

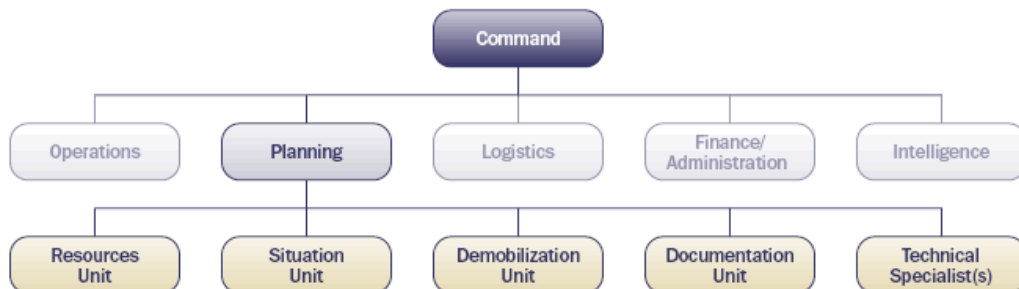
- | | |
|---|---|
| <ul style="list-style-type: none">• Collect and evaluate all operational data about the incident• Provide input to the IC/UC and Operations Section Chief in preparing the Incident Action Plan• Supervise preparation and documentation of the Incident Action Plan• Conduct and facilitate planning meetings• Assign available on-scene personnel to ICS organizational positions as necessary• Evaluate span of control within the ICS organization• Evaluate real-time performance of the Incident Action Plan with the IC/UC• Establish information requirements and reporting schedules for resources• Determine need for any specialized resources in support of incident operations | <ul style="list-style-type: none">• Provide Resources Unit within the organizational structure of the Planning Section to maintain status of all assigned resources• Assemble and disassemble task forces and strike teams not assigned to the Operations Section• Assemble information on alternative strategies• Provide periodic predictions on incident potential• Report any significant changes in incident status• Compile and disseminate incident status information• Incorporate traffic plans, medical plans, communications plans, and other supporting material into the Incident Action Plan• Supervise preparation of an incident demobilization plan |
|---|---|

The IC or UC may establish a Planning Section and delegate a Planning Section Chief during complex, large-scale highway incidents. Exhibit 2-8 lists the responsibilities of the Planning Section Chief in managing the activities of this section.

The Planning Section organization may include as many as five primary units and various technical specialists, as illustrated in Exhibit 2-9. Specifically, these organizational elements are:

- Resources Unit—ensures on-scene check-in of all assigned personnel and equipment resources and maintains both current resource status and location.
- Situation Unit—collects and evaluates situation information (e.g., including intelligence information as necessary), prepares situation summaries, and forecasts future incident events.
- Demobilization Unit—prepares an incident demobilization plan containing instructions for all personnel and resources requiring demobilization and ensures plan distribution within the ICS organization.
- Documentation Unit—maintains accurate and complete files about the incident (e.g., major steps taken to resolve the incident).
- Technical Specialist—directs planning and operations activities specific to the specialist's area of expertise.

Exhibit 2-9: Planning Section Organization



Logistics Section

The **Logistics Section** provides services and support to the incident response effort in the form of personnel, facilities, and materials. It serves as the support mechanism for the ICS organization. Services provided by the Logistics Section are dedicated to incident responders and not the incident victims. The IC or UC may establish a Logistics Section and delegate a Logistics Section Chief during complex, large-scale highway incidents. In addition to managing all incident logistics, the Logistics Section Chief might provide logistics input to the Incident Action Plan.

The Logistics Section organization can include as many as six primary units, typically organized under a Service Branch and a Support Branch. Exhibit 2-10 illustrates the full Logistics Section organization.

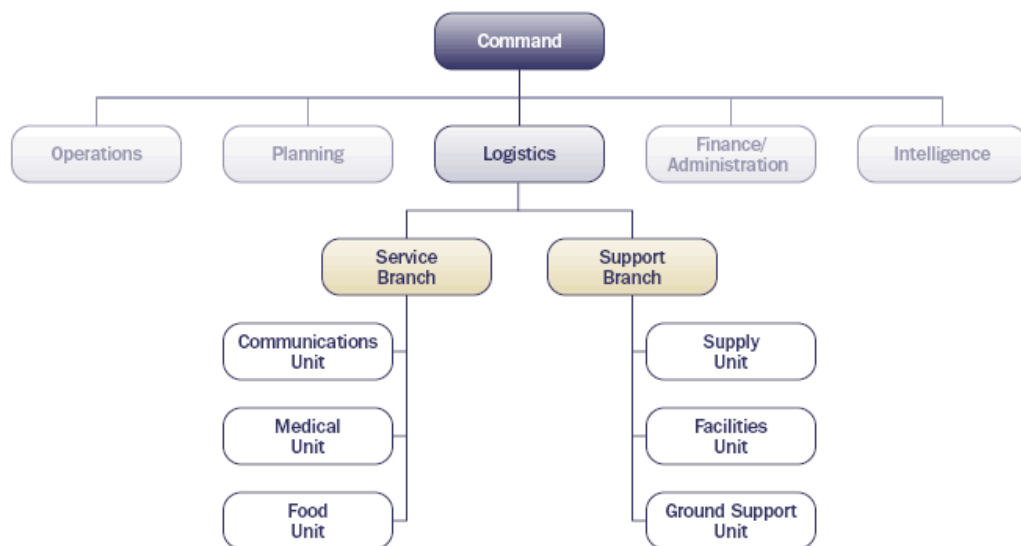
The Service Branch of the Logistics Section provides all service activities at the incident and provides the following organizational elements:

- Communications Unit—develops plans governing all communications protocol and communications equipment. Unit activities include installing and testing communications equipment, distributing communications equipment to responders, and repairing and maintaining communications equipment.
- Medical Unit—provides on-scene medical services for incident responders only.
- Food Unit—supplies food needs of incident responders throughout the incident life cycle. It coordinates with other units to determine personnel requirements, fixed feeding locations, supplies for food ordering, and ground support to transport food.

The Support Branch of the Logistics Section provides personnel (e.g., equipment operators), equipment, facilities, and supplies to support incident operations. This branch contains the following organizational elements, each of which may be supported by assisting transportation agencies:

- Supply Unit—requests personnel, equipment, and supplies to support on-scene incident operations. Unit activities also include receiving and storing incident supplies, maintaining a supply inventory, and servicing supplies and equipment.
- Facilities Unit—identifies required on-scene facilities (e.g., equipment staging, food service, sanitation, sleeping) and provides facility management, including set up, maintenance, and demobilization.

Exhibit 2-10: Logistics Section Organization



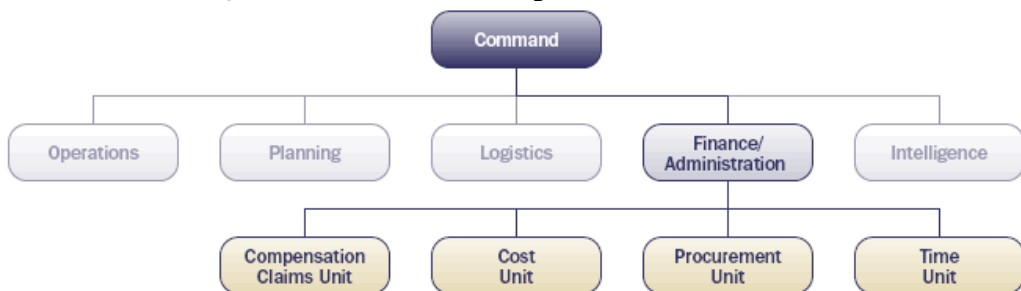
Finance and Administration Section

The **Finance and Administration Section** tracks incident costs (e.g., response, scene management, and removal) and accounts for reimbursements. Reimbursements may include payment for damage to transportation infrastructure or payment for personnel and equipment time used to complete incident cleanup operations. Recovery of expenditures requires careful tracking and recording of costs and financial operations. The IC or UC often establishes this section when there are several accounting activities to perform (e.g., cost monitoring, personnel hours, and reimbursement). If only one accounting activity is needed, a corresponding technical specialist position may instead be established in the Planning Section.

The Finance and Administration Section organization may include as many as four primary units, as illustrated in Exhibit 2-11. These organizational elements are:

- Compensation/Claims Unit—ensures completion of all forms required by worker’s compensation agencies and local agencies, and maintains files of all injuries and illnesses associated with the incident. Claims Unit investigates all claims (e.g., tort claims against responders) involving property associated or involved in the incident.
- Procurement Unit—administers all financial matters relating to vendor contracts (e.g., equipment rental).
- Cost Unit—collects all cost data, performs cost-effectiveness analyses, and provides cost estimates and recommendations for reducing incident costs.
- Time Unit—ensures preparation of daily personnel time recording documents and compliance with the agency’s time policy. Unit activities also include confirmation of equipment time reporting in the Ground Support Unit of the Logistics Section.

Exhibit 2-11: Finance/Administration Section Organization



Intelligence Section

As shown in Exhibit 2-1, in addition to the five core ICS sections, the **Intelligence Section** may be an additional component of the overarching ICS structure. The Intelligence Section provides analysis and sharing of information and intelligence during the incident. Other potential responsibilities of this functional area include:

These functional areas include:

- Developing and executing information security and operational security activities
- Ensuring the secure transfer of sensitive information between intended parties at the incident
- Supporting the Public Information Officer's handling of any informational and operational security matters with the media and public awareness initiatives

Examples of intelligence information include national security or classified information. The Intelligence Section may also manage operational information such as risk assessments, medical intelligence, weather information, building and transportation infrastructure designs, and toxic contaminant levels. Transportation may support the functional activities of this section through the use of intelligent transportation systems (ITS) technology and Geographic Information Systems (GIS) for collecting and processing information.

In general, the intelligence function is rarely needed for highway incidents. A separate Intelligence Section is necessary only for large-scale disasters or terrorist events. If there is little need for tactical or classified intelligence during a highway incident, the Intelligence functional area might be established elsewhere in the ICS organization, such as within the Command Staff or the Planning Section.

CHAPTER 3

Unified Command

Unified Command (UC) is one method of conducting the Command function within the ICS organizational structure. NIMS recommends the use of UC for multi-jurisdictional and/or multi-agency incident management. UC should be established under one of the following conditions:

- An incident that requires two or more responding agencies within a jurisdiction, each with functional responsibility for a major aspect of the incident. Functional responsibility means responsibility for a specific tactical activity such as medical attention, fire suppression, traffic control, or infrastructure repair.
- An incident that affects more than one political or legal jurisdiction and requires response by multiple agencies of the same discipline (functional responsibility). An example of a multi-jurisdictional response arises when a State DOT or state police agency has legal jurisdiction on a highway within a political boundary administered by a county government.

UC evolves from a Single Command structure established by a first responder. An incident requiring UC may start as a major incident that immediately crosses jurisdictional boundaries, or it may gradually escalate to a major incident. Once the need for multi-agency participation is recognized, UC is established. (See Chapter 5 for a discussion of the steps in the development of the ICS organization structure.) In UC, rather than a single leader assuming the Command position and setting incident objectives, multiple participating agencies designate officials responsible for specific disciplines to establish a common set of objectives and strategies. These objectives and strategies are incorporated into a single Incident Action Plan (IAP). The IAP describes an organized course of events necessary to address all phases of incident control within a specific time (see Chapter 5 for more details).

The execution of an IAP in UC typically involves performing specific tactical operations in a priority order agreed upon by all participating agencies. The lead function may progress from fire and rescue to law enforcement to transportation. This does not represent a "transfer of command" as would occur under Single Command, but rather a progression in the execution of the IAP. As the functional responsibilities of a participating agency are completed, the UC may contract back to Single Command.

Characteristics Of Unified Command

The UC structure is inherently flexible and easily adapted to different incident response efforts and agency needs. Successful application of UC to manage a highway incident has the following characteristics:

- Common organizational structure—The on-scene ranking officials that represent each jurisdiction and/or functional agency with statutory authority for an incident are assigned to UC
- Single command post—Agencies are allowed to operate harmoniously and share essential planning and operations functions
- Unified planning process—A consensus set of incident objectives and strategies is identified prior to commencing tactical operations, which is used to develop an IAP that addresses UC priorities and provides unified tactical operations and resource assignments
- Unified resource management—Coordinated use of available resources per IAP requirements is facilitated without agencies having to sacrifice administrative and policy control over their resources (e.g., transportation agency possesses final authority over wording of changeable message signs)

UC allows agencies representing different jurisdictions or functional responsibilities to coordinate, plan, and interact effectively without loss of individual agency authority, responsibility, or accountability. Designated agency/jurisdiction representatives who make up UC initiate the unified planning process by staging a Command Meeting before the start of the next operational period. This meeting is intended to jointly accomplish the following tasks:

- Determine incident objectives (in priority order) and strategies to accomplish the objectives.
- Establish ICS organizational elements and fill corresponding leadership positions as necessary
- Resolve any outstanding issues affecting UC management

Command Meeting results feed into subsequent meetings on IAP development, and the IAP is produced as the end product of the planning process. Tactics specified by the IAP indicate how UC uses available personnel and equipment resources during each operational period to implement identified strategies.

Disagreements may arise during planning or tactical operations, as UC representatives naturally have different perspectives on key issues affecting incident response. The framework and protocol governing UC promote the development of consensus solutions to perceived problems. In situations where UC participants cannot arrive at a consensus agreement, the UC member representing the agency with primary jurisdiction or functional responsibility over the specific issue in dispute normally would make the final decision.

Exhibit 3-1: Advantages of Using Unified Command

- A single set of objectives is developed for the entire incident.
- A collective approach is used to develop strategies to achieve incident objectives.
- Information flow and coordination are 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 legal authority is compromised or neglected.
- Each agency has complete knowledge of the plans, actions, and constraints of all other agencies.
- The combined efforts and resources of all agencies are optimized as they perform their respective assignments under a single IAP.
- Duplicative efforts are reduced or eliminated, thereby increasing the overall cost-effectiveness of the effort and minimizing potential conflicts

Agency Involvement In Unified Command

UC ensures an integrated response team that links involved jurisdictions, agencies, and non-government responders, providing a forum for these entities to make consensus decisions. Any assisting agency not represented in UC may guide planning and support tactical operations via designated Agency Representatives working with a Liaison Officer or technical specialists assigned to the Planning Section or other organizational element.

In order to participate in UC, agencies must possess both of the following capabilities:

- Jurisdictional authority or functional responsibility for a major aspect of a highway incident
- Capability to provide required resources with no prior notice to support UC tactical operations within the agency's area of expertise

Agency involvement in UC begins with determining consolidated incident objectives and strategies. Agencies in the UC help facilitate joint planning for tactical operations in accordance with approved incident objectives, and might conduct integrated tactical operations. Participating agencies establish procedures for joint assessments, decision-making, and documentation.

Agencies that participate in a UC structure must:

- Identify and communicate to other UC participants any legal, jurisdictional, policy, and safety restrictions
- Obtain authorization for the agency's designated representative in UC to perform certain activities and actions (e.g., resource sharing) on behalf of the jurisdiction or agency represented

Transportation agencies typically have an authorized representative in UC for most major highway incidents and most large-scale, multi-jurisdictional incidents. In some states, however, state DOTs have historically not participated in UC. This is partly because public safety agencies have traditionally not understood what DOTs can offer to the emergency response team, and also because DOTs have traditionally been focused on developing new infrastructure and less interested in transportation system operations. Agencies involved in incident response should review state laws and discuss DOT participation in UC during advance planning activities (see Chapter 4).

Functional responsibilities of transportation agencies during incident response can include traffic management and control, incident removal, infrastructure inspection, and infrastructure repair. A transportation agency representative in UC could potentially be a traffic engineer, structural engineer, transportation management supervisor, or highway maintenance supervisor. Representatives of towing and recovery and service patrols typically provide professional advice and resources to UC, but are unlikely to participate in UC.

Unified Command Structure

The appropriate composition of a UC structure, as decided upon in the initial Command Meeting, depends on the location and type of a highway incident. Location, including the incident scene and area affected by the incident, determines the involved jurisdiction(s) and representative agency (ies). Incident type is determined by factors such as victim condition, damage, potential hazards, and other effects on surrounding area. Incident type dictates the functional agencies of the involved jurisdiction(s), in addition to other agency and non-government responders that may support incident mitigation, recovery, and rehabilitation activities. Because of the randomness of incident occurrence and severity, UC structure varies from one incident to the next. The dynamic characteristics of an active incident may even require changes in the composition of a UC structure during its life cycle.

Exhibit 3-2 illustrates three conditions under which two or more responding agencies may establish UC: multi-jurisdictional, multi-agency, and combination multi-jurisdictional and multi-agency. Small traffic incidents are the most common highway incidents and typically occur within the confines of one jurisdiction. The effects of major highway incidents often encompass more than one jurisdiction and involve multiple functional authorities. In the case of major incidents, UC usually includes at least one pair of participants representing the same discipline but different jurisdictions.

Exhibit 3-2: Examples of Unified Command Applications

Incident Scope	Description	Example of UC Composition
Multi-jurisdictional <ul style="list-style-type: none"> • Multiple political or legal jurisdictions • Some responding agencies have same functional responsibility and mission 	<ul style="list-style-type: none"> • Some UC agencies have the same functional responsibility and mission • Incident affects multiple political or legal jurisdictions 	Wildfire spanning a city boundary <ul style="list-style-type: none"> • City A Fire • City B Fire
Multi-agency <ul style="list-style-type: none"> • Single political or legal jurisdiction • Each responding agency has a different functional responsibility and mission 	<ul style="list-style-type: none"> • Each UC agency has a distinct functional responsibility and mission applicable to a specific incident objective(s) • Political and legal jurisdictions of agencies that make up the UC overlap and encompass the area affected by the incident 	Traffic incident on state highway X at mile marker Y <ul style="list-style-type: none"> • State Police - legal jurisdiction on highway X • Local Fire - responds to any incident at mile marker Y • State DOT - owns highway X
Combination Multi-jurisdictional and Multi-agency	UC structure that includes agencies from multiple jurisdictions and agencies with different functional responsibilities and missions	Highway incident involving criminal

Combination Multi-jurisdictional and Multi-agency

- Multiple political or legal jurisdictions
- Multiple responding agencies have different functional responsibilities and missions

- UC includes agencies with different functional responsibilities and missions
- Political and legal jurisdictions of some UC agencies encompass only a part of the area affected by the incident, thus necessitating an agency to respond from an adjacent political/legal jurisdiction(s)

highway incident involving criminal act on state highway X and between mile marker Y and Z

- State Police - legal jurisdiction on highway X
- Local Police - jurisdiction for criminal investigation on highway X
- Local Fire A - responds to any incident in vicinity of mile marker Y
- Local Fire B - responds to any incident in vicinity of mile marker Z
- State DOT - owns highway X

UC essentially convenes the "Incident Commanders" of all involved agencies with jurisdictional or functional authority. These agencies make consensus decisions under a UC structure, but may jointly recognize one participating agency as "lead agency" depending on the priority mission at hand. The initial lead agency under a newly established UC will likely be the agency that previously administered Single Command established by the incident first responder. Other UC agencies represent "assisting agencies" until their functional responsibility becomes the designated priority objective in the life cycle of the incident. Agencies participate in UC until they have fulfilled their functional responsibility or the incident no longer affects their represented jurisdiction. UC typically contracts into Single Command once all multi-agency or multi-jurisdictional objectives are achieved. For example, when a transportation agency handles a final priority mission of restoring traffic flow to normal operations, the transportation agency's authorized representative under UC might assume the position of Incident Commander under Single Command.

All UC members must unanimously agree on the designation of an Operations Section Chief to supervise execution of the tactical operations component of the IAP. The Operations Chief is typically drawn from the current lead agency with priority mission or the agency having greatest jurisdictional authority in the UC. Changes in functional responsibilities during incident progression may result in UC recognition of new lead agencies, which necessitate a corresponding change in Operations Section Chief. For some incidents, a way to ensure the efficient transfer from one Operations Section Chief to the next is to designate a Deputy Operations Section Chief representing an assisting agency in UC that has functional authority over a future mission.

CHAPTER 4

Advance Planning and Coordination

Advance planning and coordination help to ensure the successful application of ICS in response to a highway incident. From the perspective of a transportation agency, advance planning and coordination can help to minimize some recurring incident management problems, such as longer than necessary incident response time, occurrence of preventable secondary incidents, absence of standard operating procedures, and inefficient resource allocation. This chapter outlines key elements of NIMS and corresponding successful practices that support understanding of and participation in ICS by transportation agencies. The three major components of NIMS relevant to advance planning activities for highway incidents are **preparedness**, resource management, and communications and information management.

Glossary Terms:

Mutual-Aid Agreement
 Open Roads Policy
 Preparedness
 Preparedness Organization
 Traffic Management Plans
 Typing

The advance planning and coordination activities discussed in this chapter are part of the broader incident management process of which ICS is only a part. Incident management, as presented in NIMS, begins long before an incident occurs and continues long after incident response is completed. The approach outlined in NIMS addresses incident management from multiple levels, as illustrated in Exhibit 4-1.

- The strategic level includes preparedness activities, conducted on a steady-state basis well in advance of any potential incident. The strategic level also includes the establishment of processes to manage resources over the life cycle of an incident.
- The tactical level focuses on the command and control protocol at the highway incident scene – the ICS.
- The support level includes communication and information management activities that allow incident responders to share information accurately and quickly. In the case of highway incidents, these activities can include the development of communications linkages to facilitate advanced traffic management technologies.

The strategic and support levels of incident management are the focus on this chapter. The remainder of this Guide focuses primarily on the tactical level.

Exhibit 4-1: Components of the NIMS Process



Preparedness

NIMS defines preparedness as follows:

Preparedness is the range of deliberate, critical tasks and activities necessary to build, sustain, and improve the operational capability to prevent, protect against, respond to, and recover from domestic incidents.

Preparedness activities aim to develop and sustain a prescribed level of agency response and recovery capabilities. Preparedness requires a unified approach based on ICS to ensure integration and interoperability among agencies with political and functional jurisdiction at any highway incident.

Two NIMS preparedness programs, preparedness planning and mutual-aid agreements, are vital to achieving consistent and appropriate transportation participation in ICS, while satisfying key transportation needs in highway incident response. Preparedness activities are typically led by a committee of stakeholders focused on highway incident management, including representatives from police departments, fire departments, emergency medical services, hazardous materials specialists, and transportation agencies. This [preparedness organization](#) acts as an ongoing forum for coordinating preparedness activities in advance of highway incidents. Common organizational responsibilities may include establishing integrated guidelines, procedures, and protocols to promote interoperability, adopting response priorities, and developing coordinated plans that efficiently use all resources available to the organization.

Preparedness organizations often feature some stakeholders that have achieved interagency coordination through past cooperative highway incident operations or similar transportation management efforts. Stakeholder representatives often have firsthand knowledge of the roles, resources, and capabilities of other organization participants. Larger preparedness organizations in metropolitan areas may create task forces assigned to specific preparedness activities and planning products. Maximizing the performance of preparedness organizations requires building on existing preparedness efforts and collaborative relationships while obtaining buy-in from all appropriate stakeholders in highway incident operations.

Preparedness Planning and Development of the Operations Manual

The products of preparedness planning are procedures and plans that effectively describe agency relationships and use of personnel and equipment resources for highway incident response. Preparedness products can range from multiple agency- or resource-specific operations checklists or field guides to a single interagency operations manual or plan for highway incident management. Some regions may refer to an operations manual as a "unified response" manual to emphasize its focus on ICS implementation.

An operations manual specifies a concept of operations (e.g., functions, priorities, relationships, supporting mechanisms), agency capabilities, and standard operating procedures that satisfy requirements for initiating and sustaining a coordinated response to any highway incident. Its provisions support agency, jurisdictional, or regional policies on highway incident response, removal, and recovery. For instance, an operations manual may include procedures based on an interagency [open roads policy](#) that mandates the need to rapidly remove any obstruction or hazard to the normal flow of traffic. The operations manual discusses ICS implementation issues (e.g., Command method, participating agencies) and specific [traffic management plans](#) for predefined incident severity levels and incident locations. At best, a well-organized operations manual can provide an Incident Action Plan outline. Such an outline, coupled with applicable traffic management plans, can dramatically reduce the time required for on-scene responders to develop an Incident Action Plan.

The preparedness organization oversees development of the operations manual. To ensure consistency, a single agency typically takes the lead in preparing most of the manual, with all other members of the preparedness organization providing periodic review and input. A transportation agency may serve as the lead agency in operations manual development. The published version may include a memorandum of understanding (MOU) among sponsoring agencies and private-sector responders. Each stakeholder would approve and adopt the manual's guidelines. Exhibit 4-2 shows an example MOU from Virginia on the use of Unified Command and an approved operations manual for multi-jurisdictional highway incidents. The distribution list for this agreement included the state DOT, state police, local fire, city and county law enforcement, local EMS, towing and recovery, and an area Air Force base.

Exhibit 4-2: Example Memorandum of Understanding

Traffic management and control plans	<ul style="list-style-type: none"> • CMS/highway advisory radio locations and planned messages • CCTV camera locations • Alternate route plans • Alternate signal timing plans
Interagency communications	<ul style="list-style-type: none"> • Contact information by agency and designated representative • Radio frequency lists, including on-scene emergency frequency for agencies participating in Command structure • Equipment instructions • Message transmission protocol
Post-incident activities	<ul style="list-style-type: none"> • Incident report • Interagency incident debriefing meeting • Operations manual revisions

Mutual-Aid Agreements

NIMS defines a **mutual-aid agreement** as a written agreement among agencies and/or jurisdictions that they will assist one another on request by furnishing personnel, equipment, and/or expertise in a specified manner. Some agreements may contain provisions regarding reimbursement for services. Mutual-aid agreements involve two or more public agencies representing one or more governmental levels (e.g., state, county, city). It is customary for agencies that commonly have functional responsibility at highway incidents within a jurisdiction to enter into a mutual-aid agreement. These jurisdiction representatives should also solicit buy-in from their counterparts in all nearby jurisdictions, including those in bordering states, that may be affected by a large-scale highway incident within their region. In fact, a condition for NIMS compliance is that states must promote the establishment of intrastate mutual-aid agreements. Exhibit 4-4 lists key elements of mutual-aid agreements.

A joint operations policy for highway incidents is a variation of a mutual-aid agreement, whereby two or more agencies with overlapping jurisdiction (typically transportation and law enforcement) specify agency-specific duties and responsibilities and/or approved guidelines and procedures for highway incident management. For instance, as shown in Exhibit 4-5, multiple agencies may adopt a joint operations policy for using ICS for highway incidents. An interagency open roads policy also may contain such a provision.

Exhibit 4-4: Key Elements of Mutual-Aid Agreements

- Definitions of key terms used in the agreement
- Roles and responsibilities of participating agencies
- Definitions of participating agency jurisdictional boundaries
- Procedures for requesting and providing assistance
- Procedures, authorities, and rules for payment, reimbursement, and allocation of costs
- Notification procedures
- Protocols for interoperable communications
- Relationships with other agreements among jurisdictions
- Treatment of liability, immunity, and workers' compensation
- Recognition of qualifications and certifications
- Future evaluation and modification of procedures and protocols
- Training responsibilities
- Sharing agreements

Agreements between public agencies and private-sector companies often take the form of contracts. They should be developed and kept on file to ensure that, in the event of an incident, the company can provide fast access to additional resources with potential expanded capability. For example, a public-private towing agreement may include not only a simple contract for on-call services, but also a certification of a towing and recovery company's available equipment and trained operators that delineates the company's functional responsibility at a highway incident, specifies communication and coordination protocol, and includes a "hold harmless" clause.

Exhibit 4-5: Example Joint Operations Policy on ICS

Policy: WSP and WSDOT agree to use the Incident Command System (ICS) for all highway incidents and disaster management activities that warrant its use.

In the event of an incident necessitating emergent response on a ferry or at a terminal, WSP will use the ICS as the response organization. The ICS will be set up in the WSP EOC at the Colman Dock in Seattle.

Roles: WSP will provide joint agency and industry ICS training to facilitate communication and accomplishment of joint objectives.

Source: Washington State Patrol and Washington State Department of Transportation

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Resource Management

Resource management involves coordinating and overseeing the application of tools, processes, and systems that provide incident managers with timely and appropriate resources during an incident. Incident response resources include: (1) personnel or equipment available to perform a specific

timely and appropriate resources during an incident. Incident response resources include: (1) personnel or equipment available to perform a specific tactical operation toward accomplishing an incident strategy, and (2) supplies and facilities to support on-scene incident operations. Incident Command authorizes tactical resource assignments, and a supply unit or the Logistics Section Chief typically orders supply items (e.g., food) and facilities (e.g., equipment staging).

The objective of resource management is to optimize resource use while maintaining cost-effectiveness and resource safety, consolidate control of single resources in order to reduce communications activity, and instill resource accountability in part to reduce responder freelancing. Resource management enhances the benefit of mutual-aid agreements and improves interoperability among jurisdictions and disciplines.

Optimal resource selection, deployment, and monitoring under demanding conditions necessitates systems for describing, inventorying, requesting, and tracking resources over the life cycle of an incident. NIMS describes the establishment of such systems and supporting processes and procedures as the first step in resource management. Subsequent resource management steps involve activating resource management systems prior to and during an incident, dispatching resources prior to and during an incident, and deactivating resources during or after incidents.

NIMS specifies nine processes for performing resource management tasks, summarized in Exhibit 4-6.

Exhibit 4-6: Resource Management Processes

Process	Description
Identify and type resources	<ul style="list-style-type: none"> • Categorize by capability resources commonly requested, deployed, and employed • Facilitate frequent use and accuracy in obtaining needed resources
Certify and credential personnel	<ul style="list-style-type: none"> • Attest that individuals meet professional standards for the training, experience, and performance required for key incident management functions • Provide documentation that can authenticate and verify the certification and identity of designated incident managers and emergency responders • Ensure that personnel representing various jurisdictional levels and functional disciplines possess a minimum common capability level to execute assigned tasks
Inventory resources	<ul style="list-style-type: none"> • Assess the availability of assets provided by public, private, and volunteer organizations • Determine whether or not the primary-use organization needs to warehouse items prior to an incident • Manage inventories with shelf life or special maintenance considerations
Identify resource requirements	<ul style="list-style-type: none"> • Identify what (e.g., personnel, equipment, supplies, facilities) and how much is needed, where and when it is needed, and who will be receiving or using it
Order and acquire resources	<ul style="list-style-type: none"> • Use standardized procedure for requesting, through local emergency operations center or multi-agency coordinating entity, items that Command cannot obtain locally
Mobilize resources	<ul style="list-style-type: none"> • Notify incident personnel of the following: - Date, time, and place of resource departure - Mode of transportation of the resource to the incident - Estimated date and time of resource arrival - Reporting location for resource (address, contact name, and phone number) - Anticipated incident assignment and duration of deployment - Resource order number and incident number - Applicable costs and funding codes • Perform resource management tasks: - Equip and train personnel - Designate assembly points - Obtain transportation to deliver resources to the incident most quickly and in line with priorities and budgets - Plan and prepare for the demobilization process
Track and report resources	<ul style="list-style-type: none"> • Conduct throughout the life cycle of an incident by all agencies at all levels • Provide incident managers with a clear picture of where resources are located • Help staff prepare to receive resources • Protect the safety of personnel and security of supplies and equipment • Enable the coordination of movement of personnel, equipment, and supplies
Recover resources	<ul style="list-style-type: none"> • Perform resource rehabilitation, replenishment, disposal, and/or retrograde
Reimbursement	<ul style="list-style-type: none"> • Implement mechanism to fund critical needs that arise from incident-specific activities • Ensure resource providers are reimbursed in a timely manner

In order to promote common interoperability and integration among ICS responders, NIMS has developed a national **typing** protocol to be used when inventorying and managing resources. Resources are assigned a common name and function or capability "type" according to the NIMS national typing protocol. This common terminology facilitates inventory control, enhanced interoperability, and integration of tactical operations. Type descriptions must clearly communicate resource capability levels to ensure accurate resource selection. Credentialing personnel as part of the typing process enables rapid assignment of personnel resources, such as technical specialists, with adequate training and experience to corresponding functional area units within the ICS organizational structure. Exhibit 4-6 lists elements of the NIMS national typing protocol for describing resources. Transportation is one category of resources that is defined by the typing protocol. Examples of transportation typing are provided for the some of the elements listed in Exhibit 4-7.

Exhibit 4-7: Elements of NIMS National Typing Protocol

Element	Description and Examples
Resource	<ul style="list-style-type: none"> • Consists of personnel, teams, facilities, supplies, and major items of equipment available for assignment to use during incidents

	<ul style="list-style-type: none"> • Use in tactical support or supervisory capacities at an incident site or emergency operations centers • Describe by category, kind, components, metrics, and type
Category	<ul style="list-style-type: none"> • Represents function for which a resource would be most useful • Examples: transportation, communications, public works and engineering, firefighting, information and planning, and law enforcement and security
Kind	<ul style="list-style-type: none"> • Refers to the broad classes that characterize like resources by function • Examples: service patrol vehicle, dump truck, sweeper
Components	<ul style="list-style-type: none"> • Identifies each entity comprising a single resource • Examples: service patrol resource may consist of the following components: operator, vehicle, traffic cones, arrow board, hydraulic jack, toolbox
Metrics	<ul style="list-style-type: none"> • Represent measurement standards that identify capability and/or capacity of a resource • Example: broadcast range of a highway advisory radio unit
Type	<ul style="list-style-type: none"> • Refers to the level of resource capability, where each type is based on a minimum level of capability described by the identified metric(s) for that resource. Type I represents the highest level of capability; Type IV is typically the lowest capability level. • Provides managers with additional information to aid the selection and best use of resources
Additional information	<ul style="list-style-type: none"> • Specifies information, such as legal limitations, pertinent to resource decision-making

The last resource management process outlined in Exhibit 4-6, Reimbursement, provides a mechanism to fund needs that arise from incident activities, and also plays a role in establishing and maintaining the readiness of resources. Reimbursement mechanisms can help fill a gap in funding incident operations involving transportation agency personnel and equipment used for incident clearance and infrastructure repair. Some states, for example, have legislation or agreements requiring commercial carriers or cargo owners to reimburse public agencies for costs incurred during clearance activities.

Communications and Information Management

Communications and information management represents the backbone of interoperability across jurisdictions and disciplines that make up an ICS organization, enabling essential functions such as tactical planning and operations and resource identification and assignment. According to NIMS, effective communications is based on two broad principles:

- Common operating picture—achieving a broad view of the overall situation in order for Command and ICS staff at all levels and jurisdictions to make effective, consistent, and timely decisions.
- Common communications and data standards—ensuring voice and data communications flow efficiently through a commonly accepted architecture using clear text and ICS terminology.

Advance planning activities for achieving integrated communications include the following:

- Review and testing of equipment that provides two-way communication linkages on a multi-agency channel/frequency among Command staff, ICS organization managers, field personnel, and off-site agency representatives (e.g., transportation management center staff).
- Use of clear language and information sharing protocols. Clear language involves use of commonly understood words and phrases instead of codes. Other information sharing protocols include specification of a required format for sending and confirming radio or cellular transmissions.
- Special operating guidelines and signals may be established for emergency communications or an evacuation order.

One aspect of communications and information management involves developing communication linkages to integrate disparate resources and systems of agencies that regularly support highway incident response. Individual agency systems within a region may include local traffic control (arterials and local streets), regional traffic control (freeways within a district or county), police operations, and traveler information. Communications linkages facilitate uninterrupted, real-time operator access and control of subsystems across jurisdictions and disciplines. These linkages must support communication between the field and central facilities such as a traffic management center or agency dispatch facility, as well as communication between field units. A regional communications system designed with incident operations as a focus allows subsystem operators to potentially access or control the following elements:

- Street/freeway system condition maps
- Incident information
- Road condition information
- Traffic information and advisories
- Traffic data
- Closed circuit television (CCTV) camera images
- Portable/permanent changeable message signs and highway advisory radio
- Traffic signals and system timing plans

Exhibit 4-8: Objectives of Communications and Information Management

- Formulate and disseminate indications and warnings
- Formulate, execute, and communicate operational decisions at an incident site, as well as between incident management entities across jurisdictions and functional agencies
- Prepare for potential requirements and requests supporting incident management activities
- Develop and maintain overall awareness and understanding of an incident within and across jurisdictions

System user classification levels, potentially outlined in an interagency memorandum of understanding, govern the level of user access and control.



Communications resources supporting incident operations.

CHAPTER 5

Implementation

This chapter describes how to implement a coordinated response to any highway incident using ICS. The response process begins with incident detection, leading to implementation of an Incident Action Plan (IAP). The IAP details tactics and resource assignments, which are revised as necessary based on evolving real-time conditions until normal highway operations are restored. An ICS organizational structure supports this process throughout the life-cycle of a highway incident. Use of the clearly defined steps in establishing ICS enables optimal resource deployment and coordinated incident response, control, and removal.

Glossary Terms:

- Form ICS 201
- Form ICS 205
- Form ICS 206
- Incident Command Post
- Staging Area

The size and complexity of the ICS structure expand and contract throughout the incident life-cycle. Regardless of incident scale and complexity, the first responder at the scene of a highway incident typically establishes an ICS organizational structure by assuming the role of Incident Commander (IC). Single Command may evolve into Unified Command (UC) based on the demands of the incident. Organizational elements then expand from the established Command structure. Command (Single Command or UC) does not always designate all elements; for large incidents, other appointed officials establish lower level elements to manage resources and meet incident objectives as appropriate. In this way, span-of-control limits, determined by the maximum number of individuals that one supervisor can manage effectively, drive the expansion and contraction of the ICS structure.

Establishing the ICS Structure

The location and type of incident govern the scope of response activities and, thus, the size of the ICS organization that develops. Incident location determines the jurisdiction(s) with statutory authority for all or part of the affected area. Incident type is defined by a multitude of dynamic characteristics, including the following:

- Time/date of occurrence
- Vehicle type and condition
- Number of lanes or facilities blocked
- Injuries and required extrication
- Fatalities
- Occurrence or potential for fire or hazardous materials release
- Weather conditions
- Criminal or terrorist activity

Thus, incident type determines the responding agencies with functional responsibility for distinct aspects of incident response, control, and removal.



Examples of Functional Responsibilities at a Highway Incident

Exhibit 5-1 shows the actions involved in the development of the ICS organizational structure and the conditions that might trigger each action. The incident situation, incident objectives, local laws and agreements, and agency policies influence the rate at which an ICS organization expands and contracts over the life-cycle of an incident. The two rules of thumb for managing an ICS organizational structure are to: (1) ensure the organization develops at a pace that never constrains the level of required tactical operations and incident support activities at any time during the operational period, and (2) maintain an organization size that does not exceed the size required to meet the incident objectives and get the job done. Exhibit 5-1 identifies the conditions that necessitate ICS expansion or contraction.

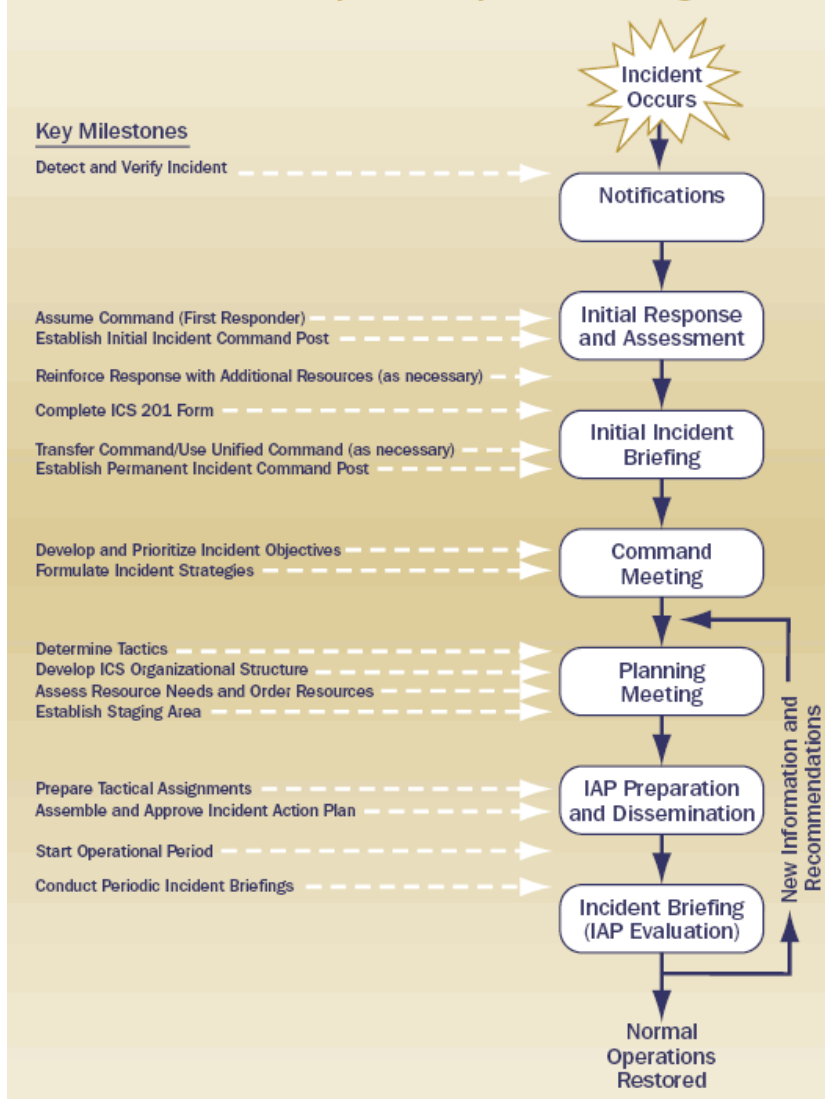
Exhibit 5-1: Actions in Developing an ICS Organizational Structure

Action	Condition that Triggers Action
Establish Command	<ul style="list-style-type: none"> • Always performed by the first responder
Transfer Command (Single Command)	<ul style="list-style-type: none"> • Arrival of a more qualified person at the incident scene representing the same agency as the acting IC • Change in priority mission requiring control by a new agency with functional or jurisdictional responsibility • Specification of a single agency staffing the IC position by law or agreement • Decrease in incident complexity to a level where a once less qualified on-scene responder from the same agency as the acting IC can control the situation

	<ul style="list-style-type: none"> • Acting IC can control the situation • Extended incident duration necessitating relief of the acting IC by a comparable on-scene responder
Establish Unified Command	<ul style="list-style-type: none"> • Incident is multi-jurisdictional - Incident location affects multiple political or legal jurisdictions • Incident is multi-agency - Incident type necessitates agencies with different functional responsibilities • Incident is a combination multi-jurisdictional and multi-agency incident - Incident type necessitates agencies with different functional responsibilities - Incident location affects multiple political or legal jurisdictions
Designate UC Lead Agency	<ul style="list-style-type: none"> • Always performed upon establishment of UC - Lead is initially UC agency that previously administered Single Command - Lead becomes UC agency whose functional responsibility becomes the designed priority mission
Establish Divisions or Groups	<ul style="list-style-type: none"> • Number of single resources, task forces, and strike teams exceeds span-of-control limit of supervisor (typically IC) - Divisions organize resources based on geographic areas of operation - Groups organize resources based on functional areas of operation • Present supervisor has little or no direct control of single resources • Observed incident hazards require close control of single resources
Establish Branches	<ul style="list-style-type: none"> • Number of divisions, groups, and single resources exceed span-of-control limit of supervisor (typically IC) • Incident objectives require two or more different functional operations, and each assisting agency organizes under a specific functional branch • Incident location affects two or more political/legal jurisdictions, and responding agencies within each affected jurisdiction organize under a specific jurisdictional branch so that resources may be managed by the agencies that normally control them
Establish Operations Section	<ul style="list-style-type: none"> • Number of branches, divisions, and groups exceeds span-of-control limit of IC • UC established
Establish Planning Section	<ul style="list-style-type: none"> • Increase in incident complexity, scale, and/or estimated duration that requires Command to designate a Planning Section Chief to supervise development and documentation of an Incident Action Plan and monitor situation and resource status.
Establish Command Staff	<ul style="list-style-type: none"> • Increase in incident complexity, scale, and/or estimated duration that requires Command to relinquish certain time-consuming, hands-on activities and designate a single on-scene responder for each of the following Command Staff positions as needed: - Information Officer—interact with media and release public information - Liaison Officer—represent on-scene contact for assisting and cooperating agencies - Safety Officer—monitor scene safety conditions and ensure safety of all personnel
Contract Unified Command to Single Command	<ul style="list-style-type: none"> • All UC agencies have fulfilled their functional responsibilities, but one agency remains responsible for restoring normal operations • Location of incident currently affects one political or legal jurisdiction

Exhibit 5-2 summarizes all the steps and key milestones in the initial response and operations planning process during highway incident response. Activities associated with each step cumulatively provide a timely, seamless integration of assisting and supporting agencies and nongovernmental responders at the appropriate levels of the established ICS organizational structure. Each of these steps is described in more detail in the following pages.

Exhibit 5-2: Initial Response and Operations Planning Process



Notification

Notification of the appropriate agency that an incident has occurred is the first step in initial response and operations planning. Common methods of incident detection and verification include calls from motorists to a public safety answering point, detection by a passing first responder, automatic detection via traffic sensors and computer algorithms, and remote observation by transportation management center operators. Verification efforts should focus on determining the potential type of incident and its exact geographic location. Once notification has occurred, the responding agency (ies) dispatches a qualified responder to the scene.

Initial Assessment and Response

During initial assessment and response, the first responder performs the following functions:

- Collect vital information about the incident
- Communicate incident size-up, including a brief description of the incident situation, action taken, obvious safety concerns, and resources required
- Secure the incident scene
- Assume role of IC

Characteristics of the incident determine which agencies with functional responsibility should respond. Initial responders also may use this information to classify the severity of the incident per local criteria. Such classification usually correlates to a defined level of response and resource dispatch adopted by one or more agencies or jurisdictions in a region. Incident classification may also reference a planned IAP outline that assists in advancing the operations planning process by providing the following guidelines:

- Agency staffing an IC, necessary transfers of command, or need for UC
- Assisting and supporting agency notification list and contact information
- Appropriate incident objectives and operations strategies, including specification of agencies with functional responsibility
- Standard operating guidelines and procedures (e.g., initial traffic control, hazardous materials spill, fatal/felony incidents) affecting response and control of the incident scene

Because all units that arrive on-scene will report to the IC, the first responder should establish and communicate the location of an initial **Incident Command Post** (ICP), represented by the IC's vehicle. The ICP should be distinguishable by some light, sign, flag, or other identifiable marking. Once it is determined that the resource(s) comprising the initial response effort cannot mitigate the incident, the IC may order additional resources to secure the scene and establish new ICS organizational elements as new responders and equipment resources arrive on-scene.

Initial Incident Briefing and Command Meeting

An initial incident briefing convenes the ranking on-scene representatives of agencies with legal and/or functional jurisdiction for the incident. Prior to the briefing, the IC should document the situation status and response activities using **Form ICS 201** or a similar incident assessment form. An example of the ICS 201 form is available from the NIMS website at http://www.nimsonline.com/download_center/index.htm#forms. Form ICS 201 can include a map sketch of the incident, a summary of current actions, a chart of the current ICS organization, and a summary of resources ordered. The form serves as an initial IAP, communicated orally by the IC to other responders, that continues to develop until either a formal IAP is prepared for a designated operational period or normal operations are restored. Exhibit 5-3 lists topics commonly reviewed in an incident briefing.

Exhibit 5-3: Incident Briefing Topics
<ul style="list-style-type: none"> • Situation status—objectives, priorities, hazards, and resource needs • IAP and progress • Current ICS organizational structure • Resource assignments (personnel and equipment) • Resources en-route and/or ordered • Facilities established • Communications established • Situation potential, safety concerns, and related issues

The IC uses the initial incident briefing as a key step in initiating the appropriate ICS structure for effectively and efficiently managing an incident. Agency Representatives may recognize a necessary transfer of command or elect to replace the IC with a UC structure. The current IC should brief the incoming Command, and all on-scene responders should be immediately notified of the Command shift. A review of established facilities should include a decision to make permanent the initial ICP or designate some other mobile, on-scene facility. Interagency communications should be initiated and maintained via established frequencies and protocol.

Following a shift from a single IC to UC, a brief *command meeting* takes place at the ICP and initiates the unified planning process. Only the authorized agency or jurisdiction representatives that make up UC participate in the meeting. UC participants determine and prioritize a common set of incident objectives and strategies (see Exhibit 5-4 for examples), designate an Operations Section Chief to manage tactical operations, fill Command Staff positions (including the UC, Public Information Officer, Safety Officer, and Liaison Officer) and General Staff positions (including personnel assigned by UC to oversee each section) as necessary, and resolve outstanding issues affecting UC management.

Exhibit 5-4: Examples of Incident Objectives and Strategies

Objective Example	Strategies
Manage traffic approaching incident scene	<ul style="list-style-type: none"> • Deploy standard traffic control • Disseminate traveler information • Determine need to implement an alternate route • Patrol traffic queues to prevent/respond to secondary incidents
Contain and remove fuel spill	<ul style="list-style-type: none"> • Prevent fuel from entering highway drainage facilities • Stop additional fuel spill at source • Transfer remaining fuel to empty tanker • Apply and remove absorbent

Planning Meeting and IAP Preparation and Dissemination

The results of a command meeting serve as input into an inter-agency planning meeting, conducted for the purpose of developing a formal IAP for the first operational period. An oral IAP is sufficient for most traffic incidents. Written IAPs typically exist for large-scale or complex highway incidents and must be prepared under UC. Basic IAP specifications include incident objectives, one or more strategies per objective, and associated operations tactics and resource assignments for accomplishing objectives. Command may designate a Planning Section Chief to supervise a formal planning meeting that leads to the preparation of an IAP. The next section of this Guide provides more detail on the IAP.

A planning meeting may begin with an incident briefing and review of incident objectives, agency policy issues, and primary and alternative strategies. Key tasks involve determining operations tactics and developing an effective ICS management structure for the first operational period. The latter may involve designation of new branch, division, and group boundaries and functions to facilitate chain of command within span-of-control limits. Planning meeting participants also determine tactical and support resource requirements, gauge resource availability, and identify sources for filling resource orders. At this time, Command or the designated Operations Section Chief should designate a **Staging Area(s)** to provide a base for incident support facilities and a Staging Area Manager(s) to oversee tactical resource coordination.

IAP implementation initiates the first operational period. At this point, an Operations Section is likely the only organizational element of the ICS structure, or possibly an Operations Section and a Planning Section. Large-scale, complex highway incidents might warrant Command designation of one or more of the following additional sections:

- Logistics Section to provide services and support to the incident
- Finance and Administration Section to track costs and account for reimbursements
- Intelligence Section (or functional group) to provide analysis and sharing of information and intelligence during the incident

Exhibit 5-5 summarizes the responsibilities of Command after designating an Operations Section Chief (and other Section Chiefs in large-scale incidents).

Incident Briefings

Periodic *incident briefings* should occur in pre-specified intervals (e.g., every 15-30 minutes) throughout the operational period(s). Command will conduct each briefing at the ICP with

Exhibit 5-5: Role of Command after Establishment of Operations Section

throughout the operational period(s). Command will conduct each briefing at the ICP with the Command Staff, General Staff, and appropriate Agency Representatives. The briefing agenda should include the topics listed in Exhibit 5-3. Each face-to-face briefing serves to: (1) update key staff and, in turn, all incident responders on the current incident situation and any new information, and (2) evaluate the IAP and, if necessary, determine appropriate revisions in response to real-time conditions.

Developing the Incident Action Plan

Two constants in highway incident response are: (1) establishing an ICS structure and (2) developing an IAP. Just as the scale and complexity of an incident influence the size of the ICS organization that evolves from Command, the same incident characteristics influence the scope of the IAP.

NIMS defines an IAP as an oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It also may include attachments that provide direction and important information for management of the incident during one or more operational periods. An IAP should be considered a work in progress during the initial stages of incident response. At first, Command may orally communicate an IAP during an initial incident briefing, based on information documented in an ICS 201 or similar situation and resource inventory form. An oral IAP may suffice if the initial or reinforced response effort can handle the incident and restore normal operations. For most traffic incidents, the scale is such that an oral IAP is sufficient. Otherwise, Command may opt to prepare a written IAP in response to an escalating incident situation. The establishment of UC automatically triggers the need to develop a written IAP. NIMS specifies the development of a written IAP when one or more of the following criteria are met:

- Resources from multiple agencies and/or jurisdictions are involved
- Multiple jurisdictions are involved
- The incident will effectively span several operational periods
- Changes in shifts of personnel and/or equipment are required
- There is a need to document actions and/or decisions

Command may designate a Planning Section Chief to guide the planning process and develop the IAP. Exhibit 5-6 illustrates the NIMS planning process for developing a comprehensive IAP. The IAP is developed in real-time as the incident unfolds, but select pre-incident plans (e.g., alternate route plan) may support the IAP as appropriate.

The final IAP will specify tactical personnel and equipment resource assignments per agency policy and practice. Additional IAP components may include, but are not limited to, the following plans:

- Communications plan (**Form ICS 205**)—Lists the type(s) of radios in use, the function of each channel, the frequency/tone to which the radio is set, and the radio's assignment.
- Medical plan (**Form ICS 206**)—Provides a description and location of on-scene medical facilities, ambulances, and hospitals and details medical emergency procedures.
- Health and safety plan—Specifies safety procedures and messages, a health and safety analysis for hazardous on-scene tasks or tactical operations, personnel training requirements, medical monitoring requirements, site control measures, and an air monitoring plan as appropriate.
- Traffic management plan—Describes procedures to direct and control the flow of traffic; determines the placement of barricades, warning lights, or signs for the duration of the highway incident impeding normal traffic flow.

Exhibit 5-7 summarizes key activities in each phase of the NIMS planning process. As part of the IAP, Command establishes incident objectives and strategies in addition to procedures for managing and ordering resources. Command also approves the final IAP prior to its implementation. The Operations Section Chief determines tactical assignments and resource requirements within the Operations Section. The changing characteristics of a highway incident over its life-cycle demand a flexible IAP for incorporating periodic changes as necessary

- Review and evaluate the IAP and initiate any needed changes
- Provide ongoing review of the overall incident (the Big Picture)
- Participate in the further development of the IAP
- Select priorities
- Staff Command and General Staff functions as necessary
- Provide direction to Command and General Staff
- Review the ICS organizational structure and initiate change or expansion to meet incident needs

Source: Model Procedures Guide for Highway Incidents

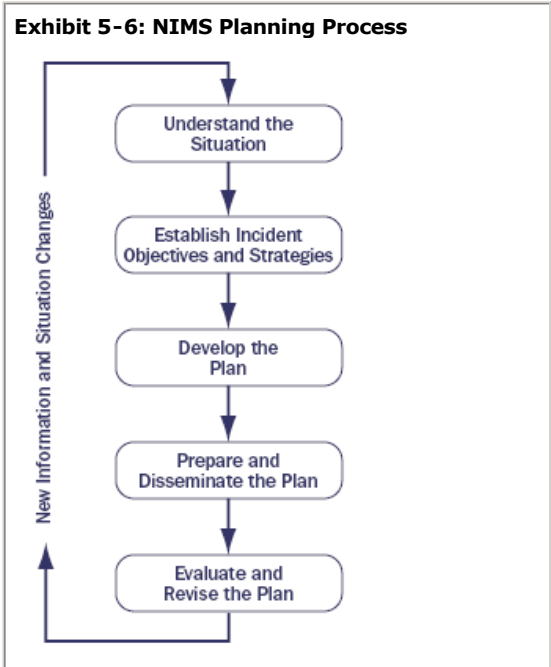


Exhibit 5-7: Key Activities of NIMS Planning Process

Phase	Activity
Understand the Situation	<ul style="list-style-type: none"> • Gather, record, analyze, and display situation and resource information (i.e., conduct incident briefing) - determine what happened, responding agencies and roles, and threats or risks to responders • Obtain a clear picture of incident scale, complexity, and potential impact • Ensure ability to accurately determine resources required to develop and implement an effective IAP
Establish Incident Objectives and Strategy	<ul style="list-style-type: none"> • Formulate and prioritize incident objectives • Identify, analyze, and evaluate reasonable alternative strategies (i.e., "what" has to be done) that will accomplish overall incident objectives and conform to the legal obligations and practice of all affected agencies
Develop the Plan	<ul style="list-style-type: none"> • Determine tactical direction (i.e., how, where, and when) and the specific resource, reserves, and support requirements for implementing selected strategies for one operational period • Select operational period—shorter for escalating and complex incidents and longer for less complex incidents • Identify resource needs and availability • Configure ICS organizational structure to execute tactics, and determine work assignments and resource requirements specific to ICS (Operations Section) organizational elements • Determine need to develop IAP attachments (e.g., Communications Plan, Medical Plan, Health and Safety Plan, Traffic Management Plan)

	<ul style="list-style-type: none"> • Transportation specific activities that emphasize that transportation must be involved in the development of the plan
Prepare and Disseminate the Plan	<ul style="list-style-type: none"> • Format IAP in accordance with the level of complexity of the incident—well-prepared outline for oral briefing or written plan • Obtain IAP attachments and review for completeness and approval • Ensure the IAP is up-to-date and complete in relation to the incident situation • Reproduce IAP and distribute before the start of the next operational period
Evaluate and Revise the Plan	<ul style="list-style-type: none"> • Compare planned progress with actual progress on a regular basis and identify deviations—changes in resource availability, mission failure or unexpected success, and new safety/cost/political/environmental considerations • Input new information and situation changes into the first step of the planning process as necessary to modify the IAP for the current or subsequent operational period

Establishing the Incident Command Post

An Incident Command Post (ICP) functions as the center of communications at the scene of a highway incident. ICP designation should occur upon initiating the ICS Command function. Initially, the first responder’s vehicle (hood) may represent the ICP. As an incident escalates in scale and complexity, Command will establish a permanent, fixed ICP. A rotating or flashing (green) light is the preferred identifiable ICP marking, although a distinctive flag, banner, or sign may suffice.

NIMS defines the operating characteristics of an ICP as follows:

- Signifies the location of the tactical-level, on-scene incident command and management organization, including the IC (or UC) and immediate staff and may include other designated incident management officials and responders
- Typically located at or in the immediate vicinity of the incident scene and is the hub for conducting on-scene tactical operations
- Used for conducting incident planning and housing the incident communications center

The decision to establish a permanent ICP should be based on the cost, length of use, and ability to expand the ICP in response to a growing incident and expanding ICS organizational structure. Selection of a permanent ICP location involves assessing and avoiding the present and potential hazard zone and the active on-scene work area. Command should ensure a secure ICP with controlled access to prevent entry by unauthorized personnel. All appropriate response personnel should receive notification of the ICP location so that ranking responders know where to report upon their arrival on-scene.

Establishing Staging Areas

Large-scale, complex incidents require a significant amount of personnel and equipment resources for tactical operations and incident support. The establishment of a Staging Area allows for the organization of all resources ready for immediate assignment. Command should designate a Staging Area(s) upon first indication of a large-scale or complex incident. A Staging Area may collocate with an ICP if feasible. However, unlike the ICP, Command or the Operations Section Chief may establish, move, or discontinue Staging Areas as needed, and may maintain multiple Staging Areas at one time. When locating Staging Areas, an area should be selected that does not require large response vehicles to weave through oncoming traffic or execute difficult turning movements to enter or exit the Staging Area.

The primary purpose of assigning incoming resources to Staging Areas is to ensure that only resources performing an active operational function, and not those placed in standby mode for some lower priority function, are present at the scene. Incoming resources to a Staging Area may be a reserve force for contingencies or a component of a task force or strike team that will assemble at the Staging Area. Each Staging Area is assigned a Staging Area Manager, who checks in all incoming resources, dispatches resources at the Operations Section Chief’s request, and requests Logistics Section Support as necessary. The Staging Area might also include temporary feeding, fueling, and sanitation services as necessary.

CHAPTER 6

Final Words

The benefits of using ICS for highway incident response are clear. Highway incidents occur at random and create different working scenarios upon each occurrence. ICS overcomes the challenge of on-scene emergency responders possibly working in a new location, for a previously unknown supervisor, and in tandem with new response agencies and personnel. ICS helps eliminate ambiguity in command and control, improves resource coordination and communications, and facilitates the application of standard guidelines and procedures in day-to-day highway incident management.

ICS is designated by the NIMS as the standard organizational system for on-scene incident command and management. State, tribal, and local organizations are required to comply with NIMS as a condition for Federal preparedness assistance. Adopting the basic tenets of ICS is one of the first steps to achieve compliance with NIMS.

A central concern of the transportation community is the safe movement of traffic along the highway, and transportation stakeholders play an important role in highway incident response. These stakeholders include highway maintenance and engineering agencies, service patrols, transportation management centers, and towing and recovery companies. Transportation agencies are an integral part of ICS because of their role in monitoring and controlling traffic flow in response to a disruption in roadway system operations. Private towing companies play an indispensable role in incident removal and restoring the affected road section back to normal operation.

Despite their important role, transportation stakeholders historically have not been fully integrated into the ICS structure, although this is changing. Emergency services are already well accustomed to using ICS for all types of incidents, but they might not be completely familiar with transportation resources. Increasingly, transportation units are appearing on ICS organization charts. In many states, the Unified Command will include a transportation agency representative during a major highway incident.

Now that you’ve read this document, consider what you can do to more fully integrate ICS into your incident management activities. Identify how you, your transportation agency, and your transportation partners can communicate, cooperate, and coordinate with your region’s public safety

agencies. As a first step, please share this document with your partners. Then consider taking the following actions:

- Talk with the fire and police departments in your jurisdiction. Find out how transportation stakeholders can work more closely with these agencies.
- Ensure that your agency has entered into mutual-aid agreements with other agencies that might have responsibilities during a large-scale highway incident. These agencies might be in bordering states.
- Review any existing mutual-aid agreements your agency has to verify they are accurate and reflect current responsibilities.
- Conduct regular ICS training for those staff at your agency who might be involved in incident response or incident preparedness planning.
- Become more involved in your area's local preparedness organization focused on highway incident management. If such an organization does not yet exist, work with emergency service agencies (police, fire, etc.) to develop one. Ask to participate in preparedness planning if your agency does not do so.

Use of ICS by all agencies and individuals involved in emergency response is the best way to ensure that when an incident occurs, it is resolved safely, quickly, and effectively. For ICS to be successful, all responders must work cooperatively at the scene to achieve common objectives, while assuring that individual agency objectives are also addressed. This level of cooperation can be achieved when transportation agencies proactively reach out to their partners and develop strong working relationships with other incident responders before an incident occurs.

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