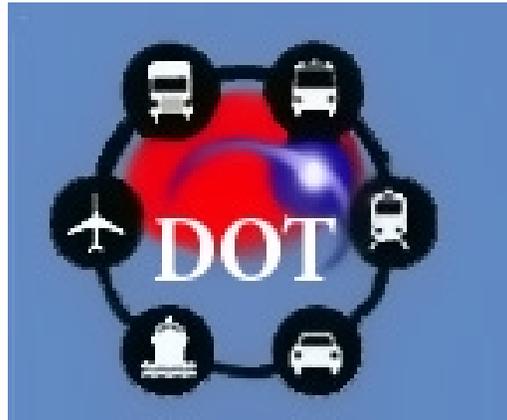




OFFICE OF
EMERGENCY
MANAGEMENT

A Special Report:

**Crisis Information Flow
to the Office of the
Secretary of
Transportation**



U.S. Department of Transportation
Research and Special Programs Administration

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Executive Summary.

This report provides an initial assessment of the Department of Transportation (DOT) operating administrations' current crisis information flow processes from the headquarters perspective. These processes communicate data concerning emergency situations and incidents that need to be reported up the chain to the Office of the Secretary (S-1) and other OST offices. This document also provides recommended appropriate courses of action to ensure that all situational reports receive proper DOT attention/responses.

This Report represents a concerted effort by the operating administration's Emergency Coordinators and the Research and Special Programs Administration (RSPA) Office of Emergency Transportation (OET) with support from the Coast Guard's Y2K staff. Much credit is given to the Emergency Coordinators who on short notice obtained input from their respective agency principals and provided detailed and valuable response data to the survey monitors. Their swift action and accurate data was critical to this study.

Considering that technology has changed, allowing simultaneous communication and viewing of information worldwide, the time is right for the Department to take advantage of new technologies and implement a new policy for managing the process for reporting emergency situations.

Before the Department implements a permanent emergency reporting system, web-based or not, a requirements analysis must be conducted to determine what information should be reported, how, when, and by whom to whom. This report lays the foundation for the requirements analysis.

The report is organized into three sections: Introduction, Survey, and Analysis Matrix. Introduction presents the study background, organization, and a discussion of the process employed. Survey details the survey process and questionnaire results. The Analysis Matrix presents findings, conclusions and recommendations. The findings are summarized below.

Policy Findings:

Current DOT guidance needs updating and reorganization.

- DOT Order DOT 1910.8 Notifying the Office of the Secretary of Emergency Situations, issued in 1991, established the "standard operating procedure" for notification. Typically the Secretary issues *Policy* in the context of an ORDER and designates responsibility to implement the policy to a point of contact(s). The point of contact implements the policy through guidance in the form of a Memorandum that establishes roles, responsibilities and criteria. Those responsible then necessitate the issuance of a standard operating procedure or other guidance establishing the procedures for managing the process.
- Currently, several versions of modifying memoranda and draft Orders are available. In this forum, it is unsure which policy and guidance is in effect, who all is aware of it, and whether it meets current Secretarial and administrative needs.

Issues Management versus Information Management

DOT Order DOT 1910.8 states that RSPA, through the Emergency Coordinators and OET has the lead role for advising, evaluating and reporting to the Secretary on incidents. Reference (b) further delineates the responsibility based on the criteria of whether an incident is multi-modal or single mode.

OET Guidance Focuses on Execution of Federal Response Plan

DOT Crisis Action Plan 1900.7D issued in 1990, focuses on identifying responsibilities and establishes procedures for domestic emergencies activated by the FRP. This document is being cancelled, further leaving a void of direction until it is replaced.

Resource Findings:

Currently the Secretary and OST principals do not have a one-stop shop for obtaining information. They must continually seek and discover new information from Operating administrations, Emergency Coordinators and OET. The internal modal process for gathering information and data from the on-scene modal representative is well established and seems to be working fairly well. FAA and CG maintain their own 24 hour-a-day command centers providing their respective Operating administrations with up to the minute reporting. Other modes track and report on incidents and emergency situations that involve a single mode. However, they rely heavily on the Emergency Coordinators for gathering data, briefing modal principals and preparing reports. Many times emergency situations occurring after hours are slow to make it through the communications channels to serve as timely and accurate reporting to OST.

Process Findings:

No standardized DOT reporting process implemented.

Each operating administration has internal procedures for reporting information to respective principals. These reports are typically copied to OST and/or RSPA/OET without regard to OST needs. Many reports come in with either too much detail or too little and in many instances are submitted to OST too late. Some reports come in well after the media report on a particular situation. Some appear to be summary reports. The operating administrations use similar mechanisms including phone, fax and email for forwarding reports to the Deputy Chief of Staff and/or the Military Assistant for the Secretary.

1. Introduction.

During Year 2000 (Y2K) emergency preparations and execution, the need was recognized to develop a rapid reporting system that encompassed all DOT operating administrations. The Research and Special Programs Administration (RSPA) Office of Emergency Transportation (OET) designed and procured an evolutionary prototype product, called the Activation Information Management (AIM) System, that was used for data reporting throughout the Y2K dates of interest, including the year-end and Leap Day rollovers. As a result of the initial assessment and lessons learned from the communication strategies and requirements used during the Y2K event, OET launched this study in April of 2000 to further improve the Department's emergency situational reporting processes.

1.1. Background:

The planned nature of the Y2K event resulted in the development of detailed comprehensive information requirements surpassing any previous large-scale, multi-modal contingency or event. For Y2K, the White House established the Incident Coordination Center (ICC) to collect and analyze information from around the world, but particularly in the United States. The ICC required scheduled summary reports from each Department that provided detailed information concerning prescribed topics. OET activated its Crisis Management Center (CMC) to facilitate the gathering of data for situational reporting from each operating administration to report the status of the national transportation system to the ICC.

OET developed AIM, which is a web-based automated information (reporting and tracking) system. AIM captured modal transportation issue information in situation reports as they occurred. Each operating administration had reports that parallel their previous reports, in some cases adding information. The reports arriving at DOT in significantly less time than the previous data collection process had achieved. The reports were accessible securely over the Internet to anyone possessing the appropriate permissions and passwords. AIM was designed so information submitted by a user was immediately available to all authorized viewers. It has a document archiving feature that keeps a "history" of all information entered about a particular event or incident and also has some geographical display capability.

However, OET did experience some problems with AIM, primarily due to the short time frame allowed to field the product. Training was provided at the last minute before the product was to be used and changes were being made to the software and the administrative control process as it was being used, throughout the entire Y2K event. Additionally, the graphics package (mapping) was not optimized, many users complained about the slow display feature.

As a proof of concept, AIM clearly demonstrated the viability and benefits of Web-based situation reporting. Because of the ease of access, this tool allowed Department principals to simultaneously access real-time information, speeding their data collection and allowing them to stay abreast of changing situations.

1.2. Study Charter:

The study was convened to analyze the process by which information flows between the heads of the operating administrations and the Secretary and Deputy Secretary and to recommend appropriate courses of action for improvement. The study was limited in scope due to the minimal amount of time the study resources would be available.

1.3. Study Objectives:

The overall study objectives are:

- Connect the Department's Vision, Mission and Strategic Goals with tools and techniques for reporting emergency situations and incidents.

- Clarify new ways of working cross-modally to reach shared objectives for developing an appropriate reporting process and tools.
- Identify individual and modal communication patterns that facilitate or hinder effective situational reporting.
- Determine meaningful ways to improve reporting processes, develop requirements for an Information System/software solution, implement and test tools and techniques and measure and track progress.

1.4. Study Approach:

The study was conducted with the following steps:

- Identify the problems and processes requiring improvement
- Develop a data collection questionnaire
- Survey the Emergency Coordinators
- Flowchart the current information flow process
- Perform a preliminary data analysis
- Interview OST stakeholders
- Analyze the data and problems
- Identify and report findings, conclusions, and recommendations

Subsequent steps may include implementation of selected recommendations, testing and evaluation of new ideas, check results with OST, take action to implement or modify policies, tools and techniques and change and/or correct courses of actions.

1.5 Study Sponsors:

The Research and Special Project Administration (RSPA) Office of Emergency Transportation (OET) sponsored the study. The RSPA principal points of contact are Ms. Janet Benini, Deputy Program Director and Ms. Barbara Barajas, Manager, Crisis Management Programs.

The principals were aided by LCDR Robert Crane, U.S. Coast Guard Y2K staff and Mr. Joe Beima, TASC contractor, Program Manager of the Coast Guard Y2K Support contract. Both led the collection of service-wide lessons learned and prepared the final after action report for the Coast Guard and participated in DOT lessons learned and after action activities.

2. Survey

2.1. Survey Participants

Each Emergency Coordinator was contacted and provided the opportunity of responding to the questionnaire and to two interviews, one to collect the data and the second to verify the data reported. All the modal representatives responded in some fashion to the request, however NHTSA declined to submit data due to the non-emergent nature of their agency responsibilities. The respondents are listed alphabetically by mode in Table 1 Survey Respondents

Agency	Responder	Agency/Routing Symbol
Federal Aviation Administration (FAA)	Emergency Coordinator: Mr. Dan Noel	FAA ADA-20
Federal Highway Administration (FHWA)	Emergency Coordinator: Mr. Al Benet	FHWA HOTO
Federal Motor Carriers Safety Administration (FMCSA)	Emergency Coordinator: Mr. Gary Golas	FMSCA HMCE-10
Federal Railroad Administration (FRA)	Emergency Coordinator: Mr. Curt Secest	FRA RRS-22.2
Federal Transit Administration (FTA)	Emergency Coordinator: Mr. Jerry Fisher	FTA TPM-30
National Highway Transportation Safety Administration (NHTSA)	Emergency Coordinator: Mr. John Ogas	NHTSA NAD-51
Research and Special Programs Administration (RSPA)		
Office of Emergency Transportation	Ms. Barbara Barajas	RSPA DET-5
Office of Pipeline Safety	Emergency Coordinator: Mr. Jim Taylor	RSPA: DPS-22
Saint Lawrence Seaway Development Corporation	Emergency Coordinator: Mr. Kevin P. O'Malley	SLS HQ Alternate
Transportation Administrative Service Center (TASC)	Emergency Coordinator: Mr. James Citro	TASC SVC-42
U.S. Coast Guard	Emergency Coordinator: Mr. Ernesto Montijo, Jr.	G-OPF-4
U.S. Maritime Administration	Emergency Coordinator: Mr. Thomas M.P. Christensen	MARAD MAR-620

Table 1 Survey Respondents

2.2. Study Process

2.2.1. Identify the problems and processes requiring improvement

The first step in analyzing what system or process changes are required is to survey the current information flow and process policy/implementation. The study commenced with several meetings with the study sponsors, who are key OET personnel responsible for reporting emergency information to the Deputy Secretary or Military Assistant to the Secretary. These meetings resulted in the identification of survey recipients, determined the questions to be addressed, and the design of the survey questionnaire.

2.2.2. Develop a data collection questionnaire

The questionnaire was designed to collect data concerning the type of emergency situations that each Emergency Coordinator would report to OST and/or OET. Additionally, the questionnaire addressed the method of submittal, the frequency and content, and the addressee(s). To also capture if any gradient or priority levels were used, the emergency situations were categorized into three general types, Essential, Critical, and Emergent, as defined in Table 2 Survey Data Categories:

ESSENTIAL (Process for providing information as a "Heads-Up" that may or may not bring about a certain effect or result.)
CRITICAL (Process for providing information as "Official Notification" to affect a management decision, being judgmental or an evaluation of a situation.)
EMERGENT (Process for providing information requiring "Secretarial Action" or attention.)

Table 2 Survey Data Categories

The definition terminology was selected to avoid any preconceived modal terminology for similar events, i.e.; priorities 1, 2, and 3 were avoided to preclude a subliminal impact on some survey participants. Normal message traffic was not included in the study.

The Emergency Coordinators were introduced to the questionnaire at a joint meeting in April of 2000, one week before the interview process convened and a mutually agreeable schedule was established for the interview process. All participants were permitted to communicate with study staff members as they desired, and alter their interview schedules.

2.2.3. Survey the Emergency Coordinators

Central to this report is the survey/interviews with the modal participants. These interviews stressed the importance of emergency situational reporting to OST and the importance for operating administrations to work together to accurately report events and situations that impact our nation's transportation infrastructure on a timely basis. The survey was designed to help OET and the operating administrations assess each agency's current information flow processes for communicating emergency situations and incidents to the Secretary and OST offices. The survey results will help OST and OET identify problem areas and make improvements to reporting policies and procedures, information flow processes, and system tools used to report and track emergency situations.

A letter detailing the survey purpose, along with a worksheet and sample flowchart, was provided to each participant during a meeting of Emergency Coordinators on April 26, 2000. Personal interviews with each participant were conducted in the following weeks. A follow-up interview with each participant was conducted to confirm previously reported input and modify the data as needed.

Agencies with pre-designated Emergency Coordinators were asked to participate. Each Emergency Coordinator was asked to collect data from their respective agency principals and provide appropriate responses to the survey questionnaire on behalf of the agency. The Emergency Coordinators completed their questionnaires prior to each interview and were very helpful during the entire process, offering additional information, and providing any internal reporting guidance the agency had established. They were asked questions in addition to those on the questionnaire concerning the classification of emergency incidents and data submittal scheduling.

The survey instrument was created in April 2000 and administered in May 2000. Eleven of twelve agencies provided input. The individual agency responses are contained in Appendix A and a consolidated response table is contained in Appendix B (Both appendices are "Official Use Only"). The latter appendix was used for comparison purposes and illustrates the diversity of reporting employed across the various modes.

2.2.4. Flowchart the current information flow process

The data provided in the questionnaires was entered into flowcharts for each mode, which were verified with the respective Emergency Coordinators to ensure their accuracy. The flowcharts present the data collected with the flow commencing from the lower left corner of the page to the upper right. Each general category type of reporting is included together with the resultant information flow through each agency to OST, the report title applied by the agency, and the recipients as known to the Emergency Coordinator. The flowcharts are presented in alphabetic order in Appendix C.

2.2.5. Perform a preliminary data analysis

An analysis of the data was initiated concentrating on flow consistency, commonality of data recipients, policy compliance, intermodal commonality and reporting media employed. The results of this analysis were used to brief representatives of S-1 and obtain their comments for incorporation into this report.

2.2.6. Interview OST stakeholders

After the operating administrations data was collated, the study staff met with key S-1 staff to determine if their experience reflected the results of the survey and to attempt to identify their data needs. The interview was conducted 12 June with the Deputy Chief of Staff and the Military Assistant for the Secretary. Both individuals are directly responsible for disseminating emergency reports received to the Secretary and throughout OST per current OST guidance.

2.2.7. Analyze the data and problems

The analysis of the data and problems identified is presented in the Analysis Matrix section.

3. Analysis Matrix

Technology changes are allowing simultaneous communication and viewing of information worldwide. The time is right for the Department to take advantage of new technology and implement new policy for managing the process for reporting emergency situations. Before the Department implements a permanent emergency reporting system, web-based or not, a requirements analysis must be conducted to determine what information should be reported, how, when, by whom, and to whom.

This section addresses three areas of concern; policy, resources, and process presenting issues/findings, conclusions, and recommendations in a matrix

POLICY

- References: (a) DOT Order DOT 1910.8, Notifying the Office of the Secretary of Emergency Situations, dated 8/22/91
 (b) Secretarial Memorandum, Emergency Notification and Reporting, dated April 22, 1993
 (c) DOT Crisis Action Plan 1900.7D, dated 8/29/90

Issues/Findings	Conclusions	Recommendations
<p>Current OST and DOT guidance needs updating and reorganization.</p> <p>Reference (a), issued in 1991, established the “standard operating procedure” for notification. Typically the Secretary issues <i>Policy</i> in the context of an ORDER and designates responsibility to implement the policy to a point of contact(s). The point of contact implements the policy through guidance in the form of a Memorandum that establishes roles, responsibilities and criteria. Those responsible then necessitate the issuance of a Standard Operating Procedure or other guidance establishing the procedures for managing the process.</p> <p>Currently, several versions of modifying memoranda and draft Orders are available. In this forum, it is unclear which policy and guidance is in effect and whether it meets current Secretarial and administrative needs.</p>	<p>The Secretary’s notification ORDER should issue long-standing <i>Policy</i>, which addresses priorities/expectations/criteria for notification, desired reporting content and frequency, and designating the point of contact s and key advisors on emergency situations.</p>	<p>Issue a new DOT ORDER DOT 1910.X</p> <ul style="list-style-type: none"> - canceling previous guidance - addressing only <u>policy</u> - establishing the Secretary’s priorities, expectations, and criteria: <p>Annually review the ORDER for update, or as conditions warrant.</p>

Finding (Cont'd)	Conclusions (Cont'd)	Recommendations (Cont'd)
<p>Issues Management versus Information Management</p> <p>Reference (a) states that RSPA, through the Emergency Coordinators and OET has the lead role for advising, evaluating and reporting to the Secretary on incidents. Reference (b) further delineates the responsibility for reporting based on the criteria of whether an incident is multi-modal or single mode.</p>	<p>Whether its multi-modal or single mode for the purpose of reporting is of no concern to the Secretary, receiving timely information is. Managing the issues surrounding a situation is a concern. According to OST staff, the Secretary wants timely and accurate information to properly assess the situation, to determine the impact to the transportation system, and take appropriate action if necessary.</p> <p>This can be managed through <u>Issues Management</u> – assessing the situation and recommending courses of action if necessary, and <u>Information Management</u> – gathering, documenting and disseminating information. What is missing is guidance on properly managing the impending issues. Issues Management requires a steady flow of information and a cadre of key advisors established, from each operating administration to focus on issues impacting the transportation system.</p> <p>Six strategic areas may be: human welfare and environment, doing the right things, departmental or government oversight, Departmental or industry reputation, financial impact, continuity of operations/government. Advisors EVALUATE and ASSESS the situation and collectively ADVISE the Secretary. RSPA/OET, Emergency Coordinators and the CMC if activated, GATHER information from the operating administrations, and FACILITATE collection and documentation, and briefings relating to Information Management. They may be called upon to facilitate the meetings and briefings relating to Issues Management.</p>	<p>Develop separate guidance for Issues Management and Information Management.</p> <ul style="list-style-type: none"> -empower Deputy Chief of Staff as point of contact (Military Asst. as alternate) to implement policy and issue further guidance on Issue Management. -empower Deputy Chief of Staff (Military Asst. as alternate) to lead “the Issues Management” cadre of DOT Leadership for managing issues, assessing situation/incident and advising the Secretary. The cadre can be formed along cross modal business lines (Air, Water, Surface) or along agency lines according to incident type and activate as necessary. -activate CMC as a support team under the direction of OET for the purpose of gathering and handling information on incident or emergency situation; the Director OET should report directly to the Deputy Chief of Staff during a CMC activation. <p>Issue a new Memorandum from the Secretary to RSPA and the Operating administrations implementing a new policy:</p> <ul style="list-style-type: none"> -OET will implement processes, techniques, and tools for collecting, handling and managing information -OET will collect data from Operating administrations <p>Issue Standard Operating Procedure incorporating guidance for Issues Management and Information Management, providing for information sharing and synthesis of data across modal lines.</p>
<p>OET Guidance Focuses on Execution of Federal Response Plan</p> <p>Reference (c), issued in 1990, focuses on identifying responsibilities and establishes procedures for domestic emergencies activated by the FRP.</p>	<p>This appears to be a driving document for activating the CMC. The order has recently been cancelled, but should be reviewed and restored to reflect current policy.</p>	<p>OET expand and document the role of the CMC in order to incorporate Information Management functions. Include media, and other matters of high public interest.</p>

Resources

Issues/Findings	Conclusions	Recommendations
<p>One-Stop Shop</p> <p>Currently the Secretary and OST principals do not have a one-stop shop for obtaining information. RSPA is as close as they get, but not all agencies share timely crisis information with RSPA. OST must continually seek and discover new information from Operating Administrations, Emergency Coordinators and OET. The internal process for gathering information and data from the on-scene regional representatives is well established and seems to be working fairly well. FAA and CG are the only agencies that maintain their own 24 hour command centers providing their respective Operating Administrations with up to the minute reporting. Other agencies track and report on incidents and emergency situations that involve a single mode. They rely heavily on the Emergency Coordinators for gathering data, briefing modal principals and preparing reports. Many times emergency situations occurring after hours are slow to make it through the channels to get timely and accurate reporting to OST.</p>	<p>Although procedures appear to be working well within the Operating Administrations, they severely hinder and delay the flow of information to the Secretary.</p>	<p>Establish a cross-modal cadre to support the EOT for providing collection of data and initial reports directly to OST unless the CMC is activated, at which time it takes precedence for DOT reporting. Cadre then can become experienced in numerous aspects of emergency transportation issues, developing corporate knowledge.</p>

PROCESS

Issues/Findings	Conclusions	Recommendations
<p>No standardized DOT reporting process implemented.</p> <p>Each Operating Administration has internal procedures for reporting information to respective principals. These reports are typically copied to OST and/or RSPA/OET without regard to OST needs. Many reports come in with either too much detail or too little. Some reports come in well after the media report on a particular situation, if at all. Some appear to be summary reports. Agencies use similar mechanisms including phone, fax and email for forwarding report on to the Deputy Chief of Staff and/or the Military Assistant for the Secretary.</p>	<p>The Secretary is interested in obtaining a clear and current picture of all emergency situations impacting transportation from DOT personnel. It appears that the media often reports on incidents before OST principals are notified about a current situation. This can be embarrassing to both the Secretary and OST principals. Secretary is responsible for reporting on the nation's transportation infrastructure to the White House and Congress. Ideally the DOT will be able to report when and where incidents or emergency situations impacting transportation can be timely reported to the nation by DOT, versus CNN, from the DOT Briefing Center.</p>	<p>Launch a requirements analysis study of the requirements for an emergency transportation communications strategy and systems solution by implementing a web-based reporting system.</p> <p>Develop a detailed reporting process and use that system in revised Standard Operating Procedures.</p> <p>Implement an annual planning/review process that addresses specific planning and process guidance, goals and timelines.</p> <p>Initial reporting should occur via phone/fax, followed by input via a DOT web-based system to capture data for historical and audit purposes. The action point to preclude the occurrence of confusion and conflicting data is at stand-up of response activities.</p>

APPENDIX A:

Individual Operating Administration Responses

Each modal response to the questionnaire is presented in detail in this appendix. Appendix B consolidates the modal reports into the three categories; Essential, Critical, and Emergent. The data is interesting in that even a superficial analysis reveals very divergent reporting methodology and processes, media employed in reporting, and addressees.

APPENDIX B:

Consolidated Response Table

This appendix consolidates the Operating Administration reports into the three categories; Essential, Critical, and Emergent. Appendix A presented each Operating Administration response to the questionnaire. It is interesting to note the differing levels of detail, discretion exercised by the administrators, and the reporting (or lack thereof) to Congressional Offices.

APPENDIX C:

Flow Charts

This appendix presents the flowcharts representing the data contained in Appendices A and B. Note the levels of detail that the Operating Administrations exercise and the levels of organizational response. It is important to note too that some Operating Administrations do not have regulatory authority over their reporting community, thus their level of detailed response is very different from others.