BUSINESS CONTINGENCY GROUP

DRAMATICALLY IMPROVING INFORMATION MANAGEMENT DURING TRANSPORTATION EMERGENCY OPERATIONS

How a Centrally Coordinated
Online Information System
Reduces Time, Cost, and Risk
 for Managers and Administrators

EXECUTIVE SUMMARY

SITUATION: Transportation entities are unable to properly manage information during a crisis.

Since the events surrounding the attacks on September 11, 2001, both public and private safety administrators have become keenly aware of the vulnerabilities associated with the nation's air transportation systems. As a result of those catastrophic events, a significant amount of attention has been focused on improving both security and information management within the nation's air transportation system.

While significant attention has been focused on the air sector of the transportation industry, vulnerabilities associated with other key systems, such as passenger and freight rail lines and transit systems, (i.e. the rail-based terror attacks in Europe and Asia), have made security managers more aware of their inability to effectively coordinate the transfer of essential crisis-related information. These information management deficiencies would pose a serious challenge for both corporate safety managers and public agency administrators in the event of a catastrophic crisis within the nation's surface transportation systems.

PROBLEM: Information coordination takes time, creating greater risks and higher costs

Rapid information analysis, coordination, and distribution is essential at the first stages of a crisis, so that response teams can carefully assess the situation, determine an action plan, and summon the most appropriate resources to respond quickly and effectively.

During a surface transportation emergency operation, such as a hazardous material spill, a collision/derailment, evacuation, or a terrorist attack, the rapid pace of events on the ground often make it difficult to get the right information to first responders and emergency operations centers (EOCs). The greater the amount of time that decision makers take to assess events and plan subsequent actions, the higher the impact on those affected by the crisis. Well-coordinated management and distribution of information during these critical periods is essential to minimize the impact of the crisis on victims, infrastructure, and the surrounding public.

SOLUTION: WebEOC® ST improves the management of real-time crisis-related information.

WebEOC is the world's first Web-based emergency management communications system to deliver real-time emergency information to businesses, public agencies, and EOCs of any size. WebEOC ST configured by the Business Contingency Group (BCG) builds upon the features of WebEOC – the industry-leading Crisis Information Management Software (CIMS) developed by ESi® – and adds functionality specifically designed for the Surface Transportation sector. The solution includes support for Bus, Rail, Ferry, and Highway transportation systems.

WebEOC ST also saves valuable time during transportation emergency operations by rapidly coordinating, managing, and relaying essential information from a central location or remote sites so that emergency resources can be accessed, deployed, and utilized as quickly and efficiently as possible. Besides enhancing the situational awareness and management of information during a crisis, the solution also provides a common operating picture in support of mock training exercises for better emergency preparedness among public agencies, first responder teams, EOCs, and corporate safety managers.

RESULT: WebEOC® ST results in faster responsiveness, lower risk, fewer property losses, and reduced operating costs.

The improved information management and coordination capabilities of WebEOC ST provide businesses and government agencies with the ability to reduce the time associated with responsiveness, allowing faster recovery from transportation emergencies.

With WebEOC ST, the risks that are traditionally associated with transportation emergency operations can be minimized. These include a lower loss of life, reduced damage to commercial and public property, and minimizing any subsequent legal liabilities following the crisis.

INTRODUCTION: MOST TRANSPORTATION SYSTEMS ARE UNPREPARED TO HANDLE A MAJOR CRISIS EVENT

The terror attacks on September 11, 2001, did more than demonstrate the need for greater homeland security. They made both public and corporate safety administrators keenly aware of the vulnerabilities associated with existing national air transportation systems.

As a result of 9/11, a significant amount of money, resources, and attention has been directed toward transportation security and crisis preparedness within the nation's airport infrastructure. But as the airline side of this equation is strengthened, transportation safety managers and administrators are becoming increasingly aware that other critical transportation systems, such as Bus, Rail, Ferry, and Highway transportation systems are vulnerable to a similar crisis event or incident.

Terrorist bombings in Europe and Asia that targeted public railway systems bring the issues of surface transportation and the need for a well-coordinated emergency responsiveness to the forefront. These recent events included:

- The Madrid train bombing of March 11, 2004,
- The London underground and double-decker bus bombings of July 7, 2005, and
- The Mumbai train bombing of July 11, 2006.

In the event of a similarly catastrophic transportation crisis, such as a hazardous material spill, a collision/derailment, evacuation, or another terrorist attack, it would be difficult to access all available information associated with the crisis. Crisis managers would be hampered in their efforts to carefully assess the situation, determine an action plan, summon the most appropriate resources, and take quick action. A well-coordinated flow of information is an essential requirement to minimizing any subsequent loss of life, damage to public and private property, and subsequent legal challenges.

Two transportation accidents that took place over the past years in the Los Angeles metropolitan area provide excellent examples of the need for coordination among a large number of response groups. In addition, the response to Hurricane Katrina highlighted many failures in the transportation response (these stories are described in the next section).

A well-coordinated information flow is an essential requirement to minimize any subsequent loss of life, damage to public and private property, and subsequent legal challenges.

During transportation emergency operations, transportation safety managers and administrators need to coordinate all relevant data on a real-time basis, so that it can be quickly analyzed and distributed to all appropriate parties from any location. Such a system would allow crisis managers to pick the most effective action plan to minimize the impact of the crisis.

Business Contingency Group (BCG), a leading provider of information management systems for the transportation industry, has configured WebEOC *ST*[1], a highly effective solution that facilitates the decision-making and information coordination/management process for government agencies and businesses alike.

The goal of this white paper is to inform transportation system safety, emergency, and operations managers/administrators about the benefits of the WebEOC *ST* solution — in particular, how it can be used to better manage transportation emergency operations while minimizing the extent of damage to the general public, property, and the environment.

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[1] WebEOC *ST* builds upon the features of WebEOC developed by ESi and adds functionality specifically designed for the Surface Transportation sector.

POOR ACCESS TO INFORMATION AND COORDINATION LEADS TO GREATER CRISIS EVENT-RELATED PROBLEMS

On Wednesday, January 26, 2005, at 6:02 a.m. PDT, a three-car Metrolink train carrying more than 200 passengers collided with a vehicle parked on the tracks. As a result, it derailed and jackknifed, striking another stationary freight locomotive and a Metrolink train moving in the opposite direction between the neighboring cities of Los Angeles and Glendale, California. In less than two minutes, 11 people were dead and approximately 230 others were injured to the point of requiring transport to a local hospital.[2]

A similar event occurred on September 12, 2008, when 25 passengers were killed and more than 135 injured (46 critically) after their Metrolink train collided with a Union Pacific freight train outside of Chatsworth, California, also near Los Angeles. The accident was the deadliest transportation disaster in Metrolink's history, with liabilities exceeding $200 million.[3]

In both of these incidents, a large number of resources were deployed from several public agencies and private companies. In the January 26, 2005 incident, staffing resources used on the scene included 100 Fire Department companies and task forces, 59 Ambulance and emergency transport vehicles, 394 Multi-agency fire personnel, 546 Multi-agency law enforcement personnel, 95 Metrolink, Union Pacific, and contract employees, and 5 Command Post vehicles. As the Glendale Fire Department Battalion Chief indicated at the time, "It was hard to get the big picture of this incident"

"It was hard to get the big picture of this incident"
-   Glendale Fire Department Battalion Chief at the Metrolink Rail Accident

In the September 12, 2008 incident, personnel from the Los Angeles City Fire Department, Los Angeles County Fire Department, Los Angeles Police Department, Los Angeles County Sheriffs Office, Ventura County Fire Department, Ventura County Sheriffs Office, California Highway Patrol, California Department of Transportation (Caltrans), Los Angeles Department of Transportation, National Transportation Safety Board, TSA, FBI, Union Pacific Rail Road, MetroLink, Beverly Hills Fire Department, Kern County Sheriffs Office, Los Angeles County Coroner, Los Angeles County Hazmat, OES Fire Branch, OES Law Branch, and OES Southern Region as well as others responded to the incident.

With these two rail incidents, problems related to information coordination persisted, including:

-   The paper forms that were used at the scene of the accident were damaged or ruined by rain (January 26, 2005 incident)
-   There was a lack of information on what the Union Pacific freight train was carrying (September 12, 2008 incident)
-   There was a lack of knowledge regarding outside contractors capabilities and resources (September 12, 2008 incident)

Similarly, when Hurricane Katrina hit the United States in August 2005, it became one of the costliest, and one of the five deadliest hurricanes in the history of the United States. Among recorded Atlantic hurricanes, it was the sixth strongest overall, and many failures in the transportation response occurred as a result. Bus deployment during the evacuation was sporadic. Some 200 New Orleans school buses sat underwater in a nearby parking lot. New Orleans Regional Transit System (NORTA) lost 204 of its 370 buses to the flood. It took nearly a week to mobilize private buses to evacuate thousands of city residents. An Amtrak train with 900 seats (7 locomotives and 20 cars) rolled away empty a day and a half before the storm.[4]

These crisis situations demonstrate the stress associated with a major transportation emergency. Incorrect decisions that are made as a result of poor information management are unacceptable.

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[2] Source: Journal of Emergency Medical Services, (JEMS.com), April 2005, "Disaster on the Rails"
[3] Source: Wikipedia.org, "2008 Chatsworth Train Collision"
[4] Source: U.S. Department of Transportation Report to Congress on Catastrophic Hurricane Evacuation Plan Evaluation June 1, 2006
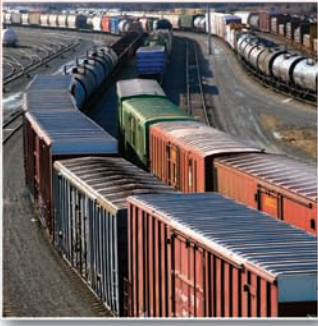
THE FOUR INFORMATION CHALLENGES DURING A TRANSPORTATION CRISIS

There are typically four information-related challenges that transportation companies and agencies face during crisis events such as the Los Angeles Metrolink accident or Hurricane Katrina:

1. Lack of Complete Situational Awareness

Many decentralized information systems cannot effectively coordinate critical information from more than one source at a time, compounding confusion and the impact of the incident. Silos of information are often created as the result of separate sets of data held by personnel accustomed to working within their own department. These proprietary systems store critical, time-sensitive information that is often not shared with non-departmental personnel. As a result, decision makers do not have a complete picture of all data associated with the incident, rendering them unable to respond in the most effective manner.

For example, during the 2008 Los Angeles Metrolink rail crisis, several procedural events were taking place at the same time as each independent transportation entity made their own assumptions of the events on the ground. Union Pacific was aware of the crisis and had their own procedures that included dispatching a private company for recovery. At the same time, the local fire department did not have the complete picture of the rail consist (the group of rail vehicles which make up a train) and determined the scope of the incident based on the information that they had.

2. Poor Coordination of Available Resources

Getting updated information to the most appropriate parties at the right time is a necessary ingredient to obtain optimal results during transportation emergency operations. Having a common operating picture of the events associated with these operations ensures that all participating parties have the same operational view. This common perspective prevents completely different response strategies from being considered or facilitated. If confusion reigns, communications break down and problems related to the crisis are magnified.

During these situations, safety managers and administrators must not only know how to coordinate and deploy available support resources, but they must also be able to efficiently manage them to gain the maximum impact at the lowest possible cost. This is especially important in light of cost-containment strategies enacted as the result of current economic conditions.

3. Lack of a Well Developed Training and Exercise Program

Emergency-preparedness training, such as conducting tabletop or mock exercises, is not being performed on a regular basis by many agencies and businesses. Participating in these exercises would not only provide essential training of personnel but also help determine a 'best-practice' set of procedures for coordinating information among first responders, EOCs, and control centers. The lack of regular exercise programs often contributes to coordination problems during actual emergency operations.

4. Reliance on Manual Processes and Paper-Based Forms

Many corporations and agencies still rely on paper-based documents and forms to manage information during transportation emergency operations, adding valuable time and leading to more severe repercussions for those affected by the crisis. During the 2005 Metrolink rail accident, paper-based forms that were used at the scene were damaged by rain or lost which impeded the processing, coordination, and distribution of essential information.

In these emergency situations, time is a significant factor. Without a proven way to centrally manage and coordinate all sources of information among all participating parties responsible for managing the crisis response, chances for success become severely compromised.

WebEOC® *ST:* IMPROVING INFORMATION CONTROL AND COORDINATION DURING A TRANSPORTATION CRISIS

During transportation emergency operations, data access and distribution must be properly managed so that critical information is made available to all first responders, EOCs, and control centers as quickly as possible. To ensure that this takes place in the most efficient and effective manner, real-time information must be rapidly analyzed, coordinated, and distributed to all appropriate parties involved with the rescue and recovery efforts.

WebEOC® *ST* saves valuable time by coordinating essential information among all emergency resources, increasing the chances of a successful outcome following an accident or crisis.

Business Contingency Group (BCG) is one of the nation's leading hazard mitigation, preparedness, response, and recovery organization. The BCG one-stop approach and delivery of a full range of end-to-end solutions, consulting services, and software products provide support for government agencies, businesses, and emergency operations centers (EOCs) throughout North America and around the globe to better address a potential transportation crisis.

As the exclusive provider of WebEOC products to the surface transportation sector worldwide, BCG has configured WebEOC *ST* (Surface Transportation), the world's first Web-based emergency management communications system. WebEOC *ST* delivers real-time emergency information and support for Bus, Rail, Ferry, and Highway transportation systems whether public or private.

WebEOC *ST* saves valuable time during transportation emergency operations by coordinating, managing, and relaying essential information among all emergency resources, dramatically increasing the chances of a successful outcome following an accident or crisis. WebEOC *ST* provides safety managers and administrators with four distinct advantages that dramatically improve the coordination and management of information during these events.

1. Concise Information Management:

WebEOC *ST* provides a wide range of transit-related information that is collected from a variety of sources, and organizes it into a common Web-based location. This centralized information allows participating crisis management personnel and support teams to collectively see, share, and act on the same information at the same time, providing a common operating picture of the crisis event.

2. Superior Coordination of Resources:

WebEOC *ST* links local, state, federal, volunteer, private, and worldwide resources together, helping to coordinate the decision-making process for planning, training, emergency response, and business operations while providing for the recovery and continuity of operations. This method of coordinating resources speeds recovery efforts and enhances the possibility of quickly resolving the crisis.

3. Online Documentation That Eliminates the Use of Paper:

WebEOC *ST* includes a suite of default status boards and online forms that are ready for immediate use. Any group — even nontechnical users — can build customized Web-based electronic status boards to meet its individual needs. New status boards, forms, and links can be added to existing Web applications. This eliminates any damage, loss, or slowdown that can occur when paper-based forms and documentation are used at the scene of an accident.

4. Highly Effective Tabletop Exercise Management That Saves Time and Money:

WebEOC *ST* includes an exercise module that provides support for "tabletop" exercises: mock emergency scenarios that are presented online and assist with crisis response training. Because the exercise is online, users can participate on either a local or a worldwide basis. This feature meets both state and federal requirements while eliminating the time, labor, and costs associated with conducting live, on-site training exercises, saving corporate and government agencies considerable amounts of time and money.

REFERENCE STUDY: THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM AND WebEOC®

One method of organizing and managing emergency resources during a crisis is to use the FEMA typing system. The 'typing' of resources helps to standardize asset descriptions by facilitating communications and precisely defining the scope and capabilities of equipment and other physical resources that will be needed during the crisis event.

In April 2009, the National Cooperative Highway Research Program (NCHRP), a research committee established by the American Association of State Highway and Transportation Officials (AASHTO) and the Transportation Research Board of The National Academies, produced a detailed study entitled, "Transportation's Role in Emergency Evacuation and Reentry: A Synthesis of Highway Practice".
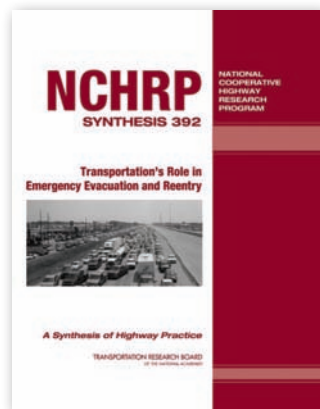
The goal of the study was to collect and document information from several federal, state, and local transportation agencies regarding their practices during emergency evacuation and reentry events. The study presented suggestions for agency planning, control, and research, as well as highlighting effective and innovative practices that can be deployed in support of these efforts.

The study also included a questionnaire that asked whether the agencies had a contingency plan in place for emergencies and what systems were being deployed in support of these plans. The results of the survey showed that approximately one-half of the participating agencies used the FEMA typing system and about one-third had 'typed' their resources.

More importantly, approximately two-thirds of the agencies that participated in the survey reported the use of software systems to manage their emergency resources. Among the systems that were referenced, WebEOC system was cited as the most widely used (approximately 76% of respondents) as compared to the other three emergency management systems: IRIS, E-Team and RIMS.[5]

Question: Which software system do you use for Emergency Management?

Response Options	State-Level Agencies	Local-Level Agencies	Total	Transportation Agencies	Emergency Management Agencies	Total
IRIS	1	0	1	1	0	1
WebEOC®	11	3	14	5	9	14
E-Team	4	3	7	2	5	7
RIMS	2	0	2	2	0	2
Total	18	6	24	10	14	24

n= 24

Other: SAP, MMS, in-development, custom system, DLAN, Maximo, and PeopleSoft

The WebEOC platform was a popular solution for emergency management for the way that it allows agencies to process resource requests through a single, web-based system. WebEOC provides situational awareness reports so that all federal, state, and local transportation agencies as well as private sector transportation companies can see all aspects that are related to a transportation emergency.

[5] Source: *NCHRP*, "Transportation's Role in Emergency Evacuation and Reentry", April 2, 2009

CONCLUDING SUMMARY

The old adage "time is money" is especially true during transportation emergency operations. The longer it takes for commercial businesses and government agencies to assess a crisis, gather and coordinate information, and distribute it to all appropriate response agencies and emergency support groups, the greater the loss of life, the damage to property, and the higher the overall costs that will be incurred.

WebEOC® *ST* by Business Contingency Group dramatically improves information management, coordination, and distribution for commercial and government safety managers, administrators, agencies, and departments by providing three key advantages during transportation emergency operations:

- **Complete Situation Awareness** — WebEOC *ST* enables safety managers and administrators by giving them real-time information and providing them with complete situational awareness of all event-related information. This allows critical, time-sensitive information to be distributed and shared with the most appropriate crisis-response teams.

- **Faster Responsiveness** — WebEOC *ST* allows safety managers and administrators to rapidly respond to a crisis by simplifying the coordination of information from other commercial businesses and government agencies. This improved level of responsiveness allows situational information and resources to be pooled and/or linked before, during, and after the crisis.

- **Quicker Recovery** — WebEOC *ST* allows both public and private transportation providers to recover from a crisis much more quickly, reducing the time associated with resource responsiveness. This saves lives, property, and operating costs, while minimizing the potential for subsequent legal challenges.

For more information on WebEOC® or WebEOC *ST* solutions, please visit the BCG website at www.businesscontingencygroup.com, send an email message to info@businesscontingencygroup.com, or call (818) 784-3736.

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