

# Handbook of Emergency Management For State-Level Transportation Agencies



MTI Report 09-10



# MINETA TRANSPORTATION INSTITUTE

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**HANDBOOK OF EMERGENCY  
MANAGEMENT  
FOR  
STATE-LEVEL TRANSPORTATION  
AGENCIES**

March 2010

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The initial impetus for this work was the development of materials to assist the California Department of Transportation (Caltrans) Headquarters with the continuous improvement cycle of their emergency management system. One focus was on the revision of their Continuity of Operations/Continuity of Government Plan, while another was on their participation in Golden Guardian 2007. Ken De Crecenzo, Jerry Knedel and Kathy Golberg were active partners in this effort.

The initial draft versions of these materials were used in planning for California's annual Golden Guardian exercise in October, 2008. The Caltrans role as a state-level agency supporting the Governor was researched and new guidance materials were developed benefitting from the in-house knowledge available through experienced Caltrans staff. Special thanks are due to Randy Iwasaki, now director of Caltrans, Mike Miles and Herby Lissade for their partnership in developing and reviewing new elements for the Caltrans Continuity of Government and Continuity of Operations Plans (COOP/COG). William Medigovich provided expert level information on the role of transportation in emergency operations. His executive level exercise materials and his work on the COOP/COG plan development were crucial elements of this research. The authors owe a debt of gratitude to the Caltrans Emergency Operations Steering Committee for their useful comments on the materials and their ideas for inclusion of additional topics.

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## EXECUTIVE SUMMARY

State transportation agencies are required to have plans for the continuity of their government functions during any catastrophic disaster, as well as for the continuation of the essential services that they provide to the people of the state, other levels of government, other state agencies and to federal partners during response, recovery and mitigation phases of emergency management. Emergency management guidance is normally provided in state laws, such as an Emergency Services Act, that defines the roles and responsibilities of state-level agencies. Headquarters-level Emergency Management Plans (EOP), Continuity of Government (COG) Plans, and Continuity of Operations (COOP) Plans embody the actions of the specific agency in disasters, with appropriate guidance detailed in checklists and annexes for the various subdivisions of the agency's headquarters staff.

The Incident Command System was created in the 1970s in California by the fire service for use in large scale emergencies. Over time it has evolved to the command and control system for all emergencies in California. After the terrorist attacks of September 11, 2001 President George W. Bush mandated that all emergency response must be conducted using the National Incident Management System (NIMS) in order to receive the federal share of emergency response funds.<sup>1</sup> Homeland Security Presidential Directive-5 (HSPD-5) was issued by President Bush on February 28, 2003 and ICS became the basis for NIMS.<sup>2</sup>

After Hurricane Katrina there was a new emphasis on catastrophic emergency planning. Transportation is the basis for the ability of all other first responders to fulfill their disaster roles. Without open, clear and safe roadways all other forms of response are slowed or stopped. Therefore a COOP and COG planning process for catastrophic emergencies is essential to augment the Emergency Operations Plan (EOP) that addresses "normal" emergencies.

The overall emergency management structure must be in place to support implementation of the EOP, COOP and COG. The emergency management structure must support organization-wide policy setting for the department while also supporting the governor's need for information. Such a system requires training of employees on the plans and their roles, including personal and family emergency preparedness. Exercises are essential to evaluate the success of the training and the completeness of the EOP, COOP and COG. A chain of command including delegation of authority is required, along with alternate EOC locations.

Planning must include recovery, with training and documentation for receiving reimbursements from the Federal Highway Administration (FHWA) and the Federal Emergency Management Agency (FEMA), and plans for audit and appeal processes. Post disaster mitigation measures must also be included, recognizing Disaster Mitigation Act 2000 mandates.

The role of the emergency operations center (EOC) must be defined and exercised. It includes support for the governor's policy decision making, and facts to assist in setting

statewide priorities for the allocation of scarce resources. The state's transportation agency serves as a link between the local governments that need assistance and the state and federal resources that can be activated. As such the state transportation department's headquarters EOC coordinates with the department's district EOCs, the state emergency management agency's regional EOCs, and the state level operations center to manage resource requests and delivery of services, based on the department's essential functions.

There is a hierarchy of emergency plans to support emergency response actions. Standard operations procedures (SOPs) guide behavior at the field level. The EOP guides the department in managing a disaster, while the COOP and COG focus on catastrophic events, and potential the loss of executive leadership and headquarters facilities. Department resources must be organized to support the department's own essential functions, as well as federal primary essential functions and mission essential functions, as defined in new federal guidelines.

This research project was intended to lay the groundwork for establishing priorities that would lead to a mature management capability for emergencies, disasters and catastrophes. Because transportation agencies typically have significant experience with "normal emergencies" on the roadways, and routinely work with state police and state fire agencies in disaster situations, some elements of a mature emergency management capability have not been emphasized. The following activities should be completed by a state level transportation agency to ensure a robust response and recovery capability. An EOC should be created, and reasonable alternative EOC sites selected and developed. The EOP and COOP should be developed, staff should be trained on the plans, and regular exercises should be held.

Guidance on these steps is included, as well as detailed examples of some COOP materials. A complete set of EOC model checklists is available in another MTI publication, *The Role of Transportation in Campus Emergency Planning*, which is available as a free download at [http://www.transweb.sjsu.edu/MTIportal/research/publications/documents/Role%20of%20Transportation%20\(Complete%20with%20Cover\).pdf](http://www.transweb.sjsu.edu/MTIportal/research/publications/documents/Role%20of%20Transportation%20(Complete%20with%20Cover).pdf).

Appendices include reference materials, examples of handouts materials for employees, a glossary and acronym list, and an extensive bibliography of references and resource materials. Appendix F, "Employee Emergency Kit Flyer," and Appendix G, "Family Emergency Plan Template," are available for download at <http://www.transweb.sjsu.edu/MTIportal/research/publications/documents/Appendix0910.html>.

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## INTRODUCTION

State transportation agencies are required to have plans for the continuity of their government functions during any catastrophic disaster, as well as for the continuation of the essential services that they provide to the people of the state, other levels of government, other state agencies and to federal partners during response, recovery and mitigation phases of emergency management. Emergency management guidance is normally provided in state laws, such as California's Emergency Services Act (Government Code Chapter 7, Division 1 of Title 2) and Disaster Assistance Act (Government Code Chapter 7.5, Division 1 of Title 2), that define the roles and responsibilities of state-level agencies. Headquarters-level Emergency Management Plans (EOP), Continuity of Government Plans (COG), and Continuity of Operations (COOP) Plans embody the actions of the specific agency in disasters, with appropriate guidance detailed in checklists and annexes for the various subdivisions of the agency's headquarters staff.

In California all emergency planning activities and documents must comply with the state's Standardized Emergency Management System (SEMS). Between 1989 and 1991 California experienced three major disasters: the Loma Prieta Earthquake, the Oakland Hills/Berkeley firestorm, and the metam sodium spill into a remote area of the Upper Sacramento River. In each case the Incident Command System's (ICS) After Action Report (AAR) demonstrated that closer coordination among agencies would have led to a more effective emergency response. As a result, a law sponsored by State Senator Nicholas Petris, who suffered loss of property as a consequence of the firestorm, requires that all fire departments in California use the Incident Command System (ICS) in the field, and all state agencies use the Standardized Emergency Management System (SEMS) throughout the organization's emergency response and management systems.<sup>3</sup> This legislation is found in California Government Code Section 8607, included as Appendix L of this report.

After the terrorist attacks of September 11, 2001, President George W. Bush mandated that all emergency response must be conducted using the National Incident Management System (NIMS) in order to receive the federal share of emergency response funds.<sup>4</sup> Dr. Richard Andrews, who had been California's Director of Emergency Services during the Pete Wilson Administration (1991–1999), led the group of professional emergency managers that created California's SEMS. When Homeland Security Presidential Directive-5 (HSPD-5) was issued by President Bush on February 28, 2003, Dr. Andrews was a member of the Homeland Security Advisory Council, and he recommended that ICS and SEMS be used to fulfill the HSPD-5 mandate for a national incident management system that the Secretary of Homeland Security was required to create.<sup>5</sup> Although not all elements of SEMS were incorporated into NIMS (notably absent is a definition of the operation of an emergency operations center), ICS is the basis for all NIMS actions.<sup>6</sup>

In 2006 the State of California required all state agencies to create or update their Continuity of Government (COG) and Continuity of Operations (COOP) plans using the most current state and federal guidance.<sup>7</sup> Caltrans' first effort focused on business resumption and systems, but the leadership recognized that a broader approach was needed for a state agency with a presence in every corner of the state, operating daily to meet the needs of a constituency the size of the nation of Portugal, whose infrastructure provides the basis for

the ability of all other first responders to fulfill their disaster roles. Without open, clear and safe roadways all other forms of response are slowed or stopped.

A team of emergency management research associates with significant professional experience in emergency management from the Mineta Transportation Institute's National Transportation Security Center of Excellence was retained to review the first COG and COOP plans,<sup>8</sup> and to advise Caltrans on additions and revisions to its COG and COOP plans in keeping with the latest federal guidelines, and with the lessons learned from its participation in the 2008 Golden Guardian exercises.<sup>9</sup> The project included the MTI team's participation with Caltrans' staff in training and exercises in preparation for the headquarters and agency-level Golden Guardian activities, leading to a revision of the plan over a two year cycle, and ultimately the delivery of training and exercises on the revised emergency management plans to headquarters and district leadership teams.

The MTI work plan included providing advice on Golden Guardian 2008's first ever agency level<sup>10</sup> Executive Tabletop Exercise in which senior Caltrans staff would participate. MTI team members coordinated with the agency-level exercise designers, as well as consulting with California Office of Emergency Service<sup>11</sup> staff members, to develop training for the likely Caltrans participants. The training cycle included several offerings of the Standardized Emergency Management System (SEMS) Executive Level training via video teleconference for headquarters staff, as well as all districts within Caltrans. All participants took the post-training test, and those who passed received training certificates.

The MTI Team developed an executive-level tabletop exercise for selected Caltrans executive staff members, whose disaster roles included working in the headquarters Emergency Operations Center (EOC), and who had the potential for representing Caltrans at agency-level EOC briefings and coordination meetings. The final consensus report for the Golden Guardian work is attached here as Appendix B.

Other activities included the review of Caltrans' COOP/COG essential functions, and creation of a revised and abbreviated list of such functions in concert with federal and state mandates. Drafts of the revisions were submitted to Caltrans project staff and ultimately to the members of the Steering Committee, who accepted the revisions in late June 2009. The revisions incorporate new guidance from the state and federal government. The new Essential Functions table is attached as Appendix C.

The MTI team also reviewed the Points of Contact lists and the Delegation of Authority for COG events, advising internal teams in the creation of updated materials. Because this information was security-sensitive it was kept in-house at Caltrans.

The MTI team was also required to review the existing emergency management structure of Caltrans and recommend revisions to ensure continuous compliance with all state and federal emergency management mandates. The team provided several possible configurations for an emergency management program, which were reviewed by Caltrans' project staff members and the steering committee. Due to the State of California's budget crisis in Spring 2009 the modifications initially are modest, but a path for additional revisions has been discussed. A more detailed description of the emergency management proposals is



contained in this report's chapters titled "The Role of the Emergency Services Manager in a State Transportation Agency," "The Role of the Department of Transportation Headquarters EOC," and "The Hierarchy of Emergency Plans."

Finally the MTI staff provided a list of actions that might be taken by Caltrans "to achieve a level of preparedness consistent with the responsibilities required by the State of California, Office of Emergency Services (OES) State Emergency Plan." MTI staff provided recommendations contained in the above-referenced sections of this report, as well as a suggested schedule for the delivery of training and exercises throughout all 12 Caltrans districts. These recommendations are provided in more details in the chapter titled "Additional Activities to Lead to a Fully Mature Emergency Management Program, Including COOP and COG Within the State-Level Transportation Agency" within this report.



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## LITERATURE REVIEW

A significant amount of material exists concerning Continuity of Operations (COOP) and Continuity of Government (COG) in federal, state and local government level plans and guidance. The private sector has also embraced the same basic concepts for their business continuity, providing their unique insight to add to the collective body of knowledge. In reviewing these documents a clear trend emerged with a single federal document being the basis for the COOP: *FEMA Federal Preparedness Circular 65* (FPC 65) released in 1999.<sup>12</sup> This base document contains the core requirements of a COOP. There were two supplements to it: FPC 66<sup>13</sup> was designed to provide guidance on training and exercises for COOP, and FPC 67<sup>14</sup> was designed to describe the acquisition of alternative facilities to support COOP. In 2004 the three documents were merged into a new FPC 65<sup>15</sup> encompassing all of this information.

A difference in perception was noted among each of the four partner entities using the COOP model—federal, state, local, and private. This involved not only COOP definitions but also roles. Most state and local COOP plans that were reviewed<sup>16</sup> referenced FPC 65 from either 1999 or 2004 as a source document in their creation. However, one of the main operational differences is that federal departments do not have a first responder role in a disaster, while local and state governments are directly responsible for immediate service delivery. Therefore their views of COOP and what must be covered by a continuity plan are different. While the federal government sees the COOP as inwardly focused on capability to continue their support operations, local and state governments see COOP as an extension of their emergency plans to continue delivering services to the community, because their missions directly involve the public's safety.

Private enterprise, lead by such entities as the Disaster Recovery Institute International (DRII), follows the federal concept of COOP as an inwardly focused business continuity plan, because they also have no first responder or public safety function, but may be crucial to immediate recovery operations.<sup>17</sup> Private entities see the delivery of public safety services as purely a government responsibility.

In 2008 the Department of Homeland Security released *Federal Continuity Directive 1(FCD 1)*,<sup>18</sup> superseding FPC 65, that included changes in definitions, making COOP evolve from a “best business practice” to a process that must be inculcated into the organization and used on a daily basis. FPC 65 (1999/2004) defines COOP as “... an effort to assure that the capability exists to continue essential agency functions across a wide range of potential emergencies.”<sup>19</sup> The new FCD1 (2008) now defines COOP as “... an effort within **individual** organizations (i.e., federal executive branch departments and agencies) to ensure that MEFs and PMEFs continue to be performed during a wide range of emergencies, including localized acts of nature, accidents, and technological or attack-related emergencies.”<sup>20</sup>

The biggest organizational change was the recognition that a department or agency would be responsible not only to have its own internal functions organized to begin an immediate disaster response, but that it also sustained the capability of coordinating with other

agencies of the executive branch during the response. This definition reflects the need for a department/agency to maintain internal capability but also marshal resources to meet the more extensive needs embodied in the directions of the executive branch in a disaster.

Continuity of Government (COG) is concerned with maintaining the essential functions of government.<sup>21</sup> Tom Durham and Lacy Suiter put it this way: “The goals of the COG program are to preserve lawful leadership and authority, prevent the unlawful assumption of authority, preserve vital government documents, and ensure that systems necessary for continued government direction and control are in place before a crisis.”<sup>22</sup> This is critical, particularly within the executive branch, to ensure continued leadership so that departments and agencies can be synchronized to deal with the needs of the country. The general assumption of COG, created during the Cold War, was a significant loss of life among the nation’s elected and appointed officials, and massive destruction to the nation’s capital, which would interrupt the federal government’s operations. Therefore an array of alternate facilities and a process of leadership succession would be needed to maintain Constitutional government.

FCD 1 now defines COG as “... a **coordinated** effort within each branch of Government (e.g., the Federal Government’s executive branch) to ensure that NEFs continue to be performed during a catastrophic emergency.”<sup>23</sup> While the executive branch is recognized as essential through the Presidential Succession Act of 1947,<sup>24</sup> Congress and the federal court system must also be provided with a chain of succession to ensure their functionality for the longer term. Therefore an entire series of COG plans for each branch of government was developed.

From a state or local perspective COG planning is normally embodied in the state constitution, the local government charter or the emergency operations plan for the succession of the senior members of the executive branch (governor or mayor/city manager). Once acting officials are appointed they can rely on the federal government to assist with support for response and recovery activities. All levels (federal, state and local) need to have the resources of their departments and agencies available to carry out the policies and orders of the executive, making it essential that departments remain operational, even if at a reduced level, to meet their primary responsibilities and respond to directions in spite of the situation they might be confronted with. This is the essence of COOP.

According to Stephan Parker of the Transportation Research Board (TRB)<sup>25</sup> many state departments of transportation and public transportation agencies have emergency plans to address immediate threats. However, few have plans to conduct operations remotely or for a protracted period. Loss of staff, resources, leadership, vital records or other critical organizational infrastructure is rarely addressed. Emphasis on creating internal plans that identify the organization’s primary responsibilities, and creation of mechanisms to guarantee they will continue at some level regardless of the situation, are considered a “good business practice.” FCD 1 went further, encouraging all responder organizations to inculcate COOP and COG into the organization’s mainstream planning process.<sup>26</sup>

Peer reviewed publications have tended to address specific operational aspects of COOP and COG. For example, Patrick McCloskey reviewed conditions of business in the World

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Trade Center following its destruction on 9/11. His investigation discovered that the large financial firms with COOP plans were able to continue operations immediately in alternate locations, while law firms without plans were often months in reestablishing their businesses. Almost 20 percent of New York's lawyers, or about 15,000 lawyers, were not able to practice because their offices were either in the towers or in adjacent buildings damaged in the attack. The interests of their clients were jeopardized because of loss of records, and the firms lost revenue.<sup>27</sup>

Analysis of federal COOP plans by the Government Accountability Office indicated that organizations whose plans they reviewed had difficulty identifying the essential functions of their organizations. The review uncovered a significant number of interdependencies among departments and agencies that had not been realized before. Among their conclusions were that FEMA's limited efforts to provide guidance and assess the resulting plans were inadequate, and had not provided enough guidance on understanding what functions were truly essential.<sup>28</sup>

The Inspector General of the Equal Opportunity Employment Commission wrote a report on the performance of their district offices after 9/11 and Hurricane Katrina. Recognizing that it was only the hard work of office staff members that allowed the offices to provide services to stakeholders, the Inspector General recommended that a senior accountable officer be appointed for COOP, whose primary responsibility would be to assist the field offices with creating and updating their COOP plans.<sup>29</sup> The Equal Opportunity Employment Commission's work is crucial in ensuring fairness in post-disaster hiring.

A large body of literature from government agencies on COOP and COG is collected in the TRB Bibliography and the State of California on-line resources list, both of which are included as Appendix J, "List of Emergency Management Publications."



## METHODOLOGY

The MTI team undertook a review of the existing COOP and COG documents created by Caltrans in 2006, and the guidance documents from state and federal sources that underlie the requirements for the creation for COG and COOP plans. The analytical methods included best practices, benchmarking and gap analysis. These documents were also evaluated for currency, applicability to a state level agency, and relevance to transportation issues. A list of requirements and best practices guided the discussions with Caltrans staff and Steering Committee. The MTI team then provided recommended COOP/COG wording, which was iteratively reviewed and revised with Caltrans staff, leading to a revision. Some of the concepts were tested with key headquarters staff members through the Executive Tabletop Exercise.





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# HISTORY OF CONTINUITY OF OPERATIONS PLAN (COOP)/CONTINUITY OF GOVERNMENT (COG)

## COLD WAR

While the terminology of Continuity of Government (COG) and Continuity of Operations Plans (COOP) was developed during the Cold War their origins are much older. The historical, and legal, precedent for the United States' COG is in Article II Section 1 Clause 6 of the United States Constitution. *"In Case of the Removal of the President from Office, or of his Death, Resignation, or Inability to discharge the Powers and Duties of the said Office, the Same shall devolve on the Vice President, and the Congress may by Law provide for the Case of Removal, Death, Resignation or Inability, both of the President and Vice President, declaring what Officer shall then act as President, and such Officer shall act accordingly, until the Disability be removed, or a President shall be elected."* Section 3 of the 20<sup>th</sup> amendment and the 25<sup>th</sup> amendment further reinforce the concept of maintaining a chain of command for the executive branch, as do the Presidential Succession Acts of 1792, 1886 and 1947.

The concept of the Presidential line of succession is the core concept of COG's purpose of enabling "...a **coordinated** effort within each branch of Government (e.g., the Federal Government's executive branch) to ensure that NEFs continue to be performed during a catastrophic emergency."<sup>30</sup> Without a continual and clearly established chain of command present to set priorities and policy in a disaster, synchronization between federal departments and agencies might be significantly impaired. This recognition of the need for line of succession can be found in most, if not all, state constitutions and local government charters. While the office of such successors may appear largely symbolic, they have a significant role in maintaining a chain of command and line of succession to authority.

COOP is the result of the complexity and interdependency of government departments. It is an acknowledgement that an emergency could be exacerbated by the failure of a department to maintain a core service capability when it suffers an interruption of normal operations. Without this "internal emergency plan" a department could be a liability instead of the asset.

In the 1950s there was concern that a nuclear attack on the United States could result in the destruction of the capital and the deaths or incapacitation of the members of the government. Extensive plans for the continuation of Constitutional government were made, including fallout shelters for key government officials. These plans and concepts led to a realization that all levels of government would need to plan to ensure that legal authority was retained by those with a legitimate claim to office.

In 1979, the Federal Emergency Management Agency (FEMA) was created as a merger among civil defense and natural hazards management programs from a variety of departments. COOP and COG plans became their responsibility. In 1987, FEMA issued a guidance document for COG, CPG 1-10,<sup>31</sup> that remains the guidance document today.

After the fall of the Berlin Wall there was a diminution of interest in civil defense matters, and COG was viewed as an issue that had lost salience. FEMA turned toward a natural hazards focus-based on the needs reflected in the 1989 twin disasters of the Loma Prieta Earthquake and Hurricane Hugo, and 1991's Hurricane Andrew and Oakland Hills-Berkeley firestorm.

In 1993 a radical Islamist group attacked the World Trade Center in New York with a truck bomb. As Professor Rick Sylves noted in his prescient article for the *PA Times*, this event brought home the reality of terrorist activity within the United States, and the possibility of future attacks that present simultaneous multiple disasters: fires, building collapse, utility damage, infrastructure damage including transit and transportation facilities.<sup>32</sup> However, this appeared to be a single event, and generated no notable legislative change.

## **OKLAHOMA CITY BOMBING**

Two years later the reality of domestic urban terrorism was brought to the fore by two acts within weeks of each other: the Aum Shinrikyo hazardous material (Sarin) release in the Tokyo subway carried out by Japanese citizens, and the truck bombing of the Alfred P. Murrah Federal Office Building in Oklahoma City by an American domestic militia member. These two acts led to a reexamination of domestic preparedness for terrorist acts, including a reassessment of COOP and COG. The Murrah Federal Office Building contained a number of federal agencies, including Federal Bureau of Investigation (FBI), Bureau of Alcohol, Tobacco and Firearms (ATF), and Social Security Administration (SSA). Each organization lost key staff and vital records as the front part of the building collapsed in the explosion. The federal courthouse directly across the street suffered extensive damage from flying debris from the building explosion, as well as from fire suppression system water within the building. Evidence stored in the courthouse for trials in progress was destroyed, resulting in mistrials for a number of cases.<sup>33</sup>

Federal initiatives were undertaken in response to the attack. President Bill Clinton issued a series of Presidential Decision Directives (PDDs) aimed at changing the shape of American emergency management, including the PDD-39 and PDD-62, which made the use of weapons of mass destruction (WMD) inside the US territory "automatically to involve the federal government's preeminent responsibility and authority."<sup>34</sup> PDD-63, "Critical Infrastructure Protection," also "laid the groundwork for developing counterterrorism relationships between the local and federal governments."<sup>35</sup> PDD-67, "Enduring Constitutional Government and Continuity of Government Operations" was also a response to these events, replacing and elaborating on previous continuity of government directives. Neither the directive nor a fact sheet was ever released.<sup>36</sup> The 1999 version of *Federal Preparedness Circular 65 (FPC 65)*, *Federal Executive Branch Continuity of Operations (COOP)*, was developed to provide guidance for all federal agencies in the development of effective COOP plans. In a change of policy as a result of the Oklahoma City bombing, FEMA also supported Presidential Disaster Declarations for human-caused disasters.<sup>37</sup>

## **POST 9/11 FEDERAL MANDATES**

Regardless of the stepped-up preparedness for domestic terrorist attacks, Al Qaeda

successfully attacked the Twin Towers of the World Trade Center and the Pentagon on September 11, 2001. Domestic preparedness efforts were significantly increased, including the issuance of new Homeland Security Presidential Directives to establish new organizations for response to terrorist events within the United States. The Department of Homeland Security was created by Congress in 2002, reorganizing the executive branch to bring together 22 agencies with 180,000 employees, including FEMA.<sup>38</sup> Homeland Security Presidential Directive-5 (HSPD-5) was issued on February 28, 2003 mandating the National Incident Management System (NIMS). Later HSPDs, notably HSPD-8: National Preparedness issued on December 17, 2003, have continued to shape evolving concepts of homeland security.<sup>39</sup>

## HURRICANE KATRINA

In August 2005 the nation's emergency response system was tested through Hurricane Katrina and the flooding of New Orleans. Most analysts found the federal response lacking, and also noted the leadership and operational failures of the city and state in maintaining continuity of operations in the flooded areas. There is an extensive literature analyzing Hurricane Katrina and its demonstration of emergency management shortcomings, including reports from both the White House<sup>40</sup> and the Congress, which called its report, *A Failure of Initiative*.<sup>41</sup> Pictures of the drowned city and its destroyed roads and bridges were broadcast all over the world. NATO's 2006 workshop on first responders and terrorism found a number of cautionary messages in the American catastrophe, and included an annex on Hurricane Katrina in the resulting book.<sup>42</sup>

Local and state leaders throughout the nation were inspired to reconsider their own entities' level of preparedness for catastrophic events. In 2006, California Governor Arnold Schwarzenegger issued Executive Order S-04-06 creating an Executive Partnership Advisory Workgroup, a group of executive agencies tasked with developing emergency guidelines and managing disasters. While it included the Cabinet Secretary for Business, Housing and Transportation, there was no role for Caltrans, even though the California Highway Patrol (CHP) and the California Department of Forestry and Fire Prevention (CalFire) both had seats on the workgroup. The Executive Order also mandated the Director of Emergency Services for the state to issue new Continuity of Government/Continuity of Operations plans and guidelines by June 1, 2006, "ensuring the provision of essential services to the public during and after a catastrophic event."<sup>43</sup> Executive agencies had four months to update their plans and submit them to the cabinet secretary and Director of Emergency Services. Because of the compressed timeline over the summer (June 1 through September 30, 2006) agencies had little opportunity for creating thorough plans that were agency-specific, but rather had to follow the template provided.

At the federal level, HSPD-20 was approved on May 9, 2007, and superseded PDD-67. It creates a National Continuity Coordinator and National Essential Functions (NEFs), defined as "that subset of Government Functions that are necessary to lead and sustain the Nation during a catastrophic emergency and that, therefore, must be supported through COOP and COG capabilities," while Primary Mission Essential Functions (PMEFs) are defined as those "Government Functions that must be performed in order to support or implement the performance of NEFs before, during, and in the aftermath of an emergency."<sup>44</sup> In August

“the President approved the *National Continuity Policy Implementation Plan* to build upon the *Policy* and provide guidance to executive departments and agencies on appropriately identifying and carrying out their Primary Mission Essential Functions that support the eight National Essential Functions—the most essential functions necessary to lead and sustain the Nation during a catastrophic emergency.”<sup>45</sup>

In 2008, two new directives were issued that defined further the concepts of essential functions and primary mission essential functions: Federal Continuity Directive 1 and Federal Continuity Directive 2. They encompass the philosophy of the COOP as a living document that results in an evolving plan with a broad department level of participation and training. These formed the basis for the Essential Functions list found in Appendix C.

In January 2009 Continuity Guidance Circular (CGC 1) Continuity Guidance for Non-Federal Entities was issued. Focused on “States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations,” CGC 1 provided guidance for plans and programs that will ensure the provision of essential functions regardless of circumstances. Because this was released after these revisions were well underway, the COOP COG I material was only integrated in portions of this new guidance, although the second part of this project will include a thorough analysis of its impact. One benefit of COOP in a tight budget is the identification of the essential functions which must be maintained, even with the loss of financial resources, to help set priorities for department work programs.

## **SCENARIOS REQUIRING THE IMPLEMENTATION OF COOP/COG**

Not every emergency, or even every disaster, requires the implementation of COOP or COG plans. However, it is possible to envision specific events that would require their activation. The primary event would be a catastrophic inundation of the capital city, possibly caused by earthquake-induced levee failures. In this case the headquarters building could be inundated or marooned. Personnel could be trapped, or at a minimum unable to access materials contained in the building. If the flooding were catastrophic and occurred during regular business hours significant members of the Caltrans executive staff might be trapped in the building by the flood waters, and unable to communicate for hours to days. Such a circumstance would require the immediate activation of an alternate EOC facility and the implementation of lines of succession to ensure that analysis of the disaster’s impact on roads could be conducted, and emergency actions undertaken to repair transportation services for emergency response to the disaster. Since the State’s Disaster Assistance Act mandates that “The Department of Transportation’s area of responsibility concerns streets, roads, bridge and mass transit repairs,” continuity of Caltrans’ services is essential for any disaster response to proceed.

A second plausible scenario is terrorist destruction of a government building or transportation department headquarters facility, either of which could be located on a busy and narrow street with on-street parking. An Oklahoma City-style truck bomb parked on the capital grounds could create catastrophic damage to the headquarters building through both blast effects and debris projectiles. Recognizing the level of damage done to the federal courthouse across the street from the Murrah Federal Office Building in Oklahoma City

(on the other side of a much wider street), the need to secure vital records and have an alternate facility is clear. Such a disaster could also impact staff within the headquarters building, causing fatalities and injuries that would lead to the activation of the lines of succession.

In either scenario the existence of COOP and COG plans would guide whatever staff remained capable to undertake priority work first, and maintain essential functions to support state and federal response.



**Figure 1 An Example of a Disaster Preparedness Exercise in San José**



**Figure 2 Train Disaster Exercise in San José**



**Figure 3 Train Disaster Exercise for San José Fire Department**



**Figure 4 Removing a Window as Part of San José Fire Department Disaster Exercise**



**Figure 5 Preparing for a Victim Rescue During Train Exercise in San José**





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## THE ROLE OF THE EMERGENCY SERVICES MANAGER IN A STATE TRANSPORTATION AGENCY

The state's transportation agency is responsible for its most far-flung and expensive infrastructure: the system of roads, bridges and tunnels that supports emergency response throughout the state every day. As such its job is both internal and external. It must plan, staff and train for activities required to keep the agency in business so it can deliver services, including maintenance of maps and as-built drawings to facilitate repair and reconstruction, maintenance of equipment and trained personnel to facilitate repair and reconstruction, and maintenance of internal information technology systems to support Geographic Information Systems, payroll and other human resources services, and contracting in disasters. Its leaders must be prepared to advise the governor on transportation-related policy during disaster events, and must have an established chain of command to maintain that role regardless of the precipitating event.

The state's transportation agency owns and/or maintains most of the state's most critical transportation infrastructure. In every disaster the first responders depend on the availability of passable roads to get to the disaster scene and begin their work. Therefore the transportation agency must also be organized and staffed to rapidly respond to requests from outside the agency for road clearance, debris removal, emergency repairs, overload permits and many other emergency response activities. These requests may originate from other state agencies, such as the state highway patrol or state police, or the state's fire fighting agency. Requests may originate from federal partners such as the National Forest Service. But many of the requests for emergency response will come from local jurisdictions within the state through the regional emergency organizations. Local agencies may request repair of state roads as well as mutual aid for the clearance and emergency repair of locally owned transportation assets. Therefore, a robust response capability is essential for the state level transportation department, regardless of the source of threat to its operations or infrastructure.

The emergency manager is responsible for the department's implementation of the four phases of emergency management: planning, response, recovery and mitigation. The job is analogous to that of the budget director in that it involves every element of the department and all the department's resources. Therefore, ideally the emergency manager is part of the department's executive staff, with a direct reporting relationship to the chief deputy and direct access to the director.<sup>46</sup>

Emergency management tasks cannot be conducted by one person alone. Because the emergency management functions cover all aspects of the department, the emergency manager should be supported by an emergency management committee made up of authorized representatives of all sections of the department who can make commitments on behalf of their parts of the organization. These people are ideally assigned to the emergency management committee function as an integral part of their daily jobs, and their performance on the committee is part of their annual evaluation. Together the emergency manager and the emergency management committee coordinate plans, training and exercises across the department to ensure the department's readiness for its

responsibilities in all identified threats to the state. The committee is crucial to the success of the emergency preparedness mission because the process of developing the plans for the department is in itself a learning experience for all members. The synergy of the various elements working together will result in more robust strategies for the management of disasters, for as General Dwight Eisenhower observed, “Planning is indispensable.”<sup>47</sup>

The state’s transportation agency does not function in a vacuum but as part the governor’s cabinet or of a larger agency, and ultimately as a state organization. As such the emergency manager must maintain relationships with the cabinet or agency level and statewide peers, most notably with the state’s lead agency for emergency management. The emergency manager will be the liaison to all state level emergency planning that involves transportation, and will serve as the transportation representative to statewide planning groups.

In order to be most effective the emergency manager will need to keep current on state and federal plans and programs for emergency management. Therefore he will need to attend training with the state’s emergency management agency and FEMA on a regular basis, and to participate in statewide emergency management planning and training sessions with state’s association for professional emergency managers, regional terrorism planning groups and other organizations that are developing planning and training in disaster response.

## **PRE-DISASTER PLANNING AND PREPAREDNESS**

Given the critical nature of the transportation agency’s emergency response requirements, the department’s emergency manager must approach the job from the professional perspective, being guided by state and federal emergency management principles and practices. The first responsibility is to undertake a thorough **threat assessment** for the department’s jurisdiction, which is the whole state. Using resources from federal agencies like the National Weather Service and the United States Geological Survey, the emergency manager can make a threat list for natural hazards likely to occur within the state. Most states are prone to wildland urban interface fires, riverine and flash flooding; and may have the potential for landslides, tsunamis, hurricanes, tornadoes or earthquakes. A review of departmental reports and news reports, as well as consultation with the state’s fire and law enforcement agencies, will reveal vulnerabilities to technology based disasters like large-scale power outages, hazardous materials accidents— both fixed site and transportation-based—and denial of service of utilities and internet as a result of accident or human-caused actions. Consultation with law enforcement will also reveal criminal and terrorist threats to the state and its critical infrastructure assets.<sup>48</sup> The Disaster Mitigation Act of 2000 mandated the creation of a statewide Hazard Mitigation Plan that also contains a comprehensive threat assessment that can form the basis for the transportation department’s plans. A good example is the 2007 enhanced State Hazard Mitigation Plan.<sup>49</sup>

Once the nature, frequency and consequences of the threats to the state are understood, a NIMS-compliant emergency operations plan must be developed for the department. The **planning process** should be led by the emergency manager, but participants must include representatives from all elements of the department whose roles are crucial to emergency response capability. These would include at a minimum the road maintenance, information

technology, human resources and procurement elements of the department. Other elements of the transportation department should be included in the planning process, as their activities support emergency response and essential functions. Detailed planning guidance is available in FEMA's *Comprehensive Preparedness Guide 101*, March 2009.<sup>50</sup>

Other state level departments may also have related plans that either address limited aspects of emergency response, or address various levels of emergency response. For example, many agencies have developed information technology-based Business Continuity Plans that describe how communications and technology systems will be backed-up, protected and brought back on-line in the event of any emergency, from a localized power outage to a catastrophic denial of service attack. Recently agencies have developed influenza-specific plans for the possibility of pandemic which could close all public departments. These plans often are focused on Human Resources activities to notify and protect employees during pandemic illness, and may address staffing for critical and essential functions during a social distancing or quarantine period. The emergency manager may be an adviser in the creation of these plans, but is usually not the lead staff member.

Continuity of Government Plans (COG) are mandated for state level departments. The COG is required for the maintenance of constitutional government in the state. In a state-level transportation agency the role of the COG is to describe how the essential services of the department will be maintained following the loss of its headquarters and senior staff, what alternative facilities will support that work, and how new leadership can be reconstituted rapidly to ensure both the direction and control of the department and the ability to advise the governor or acting governor. Continuity of Operations Plans (COOP) are mandated for the continuation of state and federal essential services during any catastrophic disaster that goes beyond the threat analysis on which the emergency operations plan was based.<sup>51</sup> This plan will describe the maintenance of all essential functions of the agency both in support of its own internal work, and in support of the catastrophic response by other state and federal agencies. The emergency manager would generally be the lead staff member in the development of the COG and COOP following state and federal guidance.<sup>52</sup> All plans, whether incident specific or department wide must be ICS/SEMS/NIMS compliant.

The staff members who will have roles in the emergency response organization, in both disasters and catastrophes, must receive appropriate **training** in advance of the need to use the plan. First the staff members must be notified of their expected roles and responsibilities in a disaster. Each should be given a copy of the emergency operations plan to review, and be directed to complete the NIMS courses mandated for the level of their performance. All state agency emergency response personnel must complete the Basic NIMS course, and if they are in the emergency operations center (EOC) they should seek appropriate state-based training.<sup>53</sup> EOC staff members should receive a briefing on the emergency operations plan when it is introduced, and any time that it is revised. The emergency manager must keep track of the training received by the EOC staff, and human resources should collect the training certificates for all staff in the emergency response organization, as the transportation department will be required to demonstrate NIMS compliance when requesting state and federal disaster reimbursements.

Staff members should also be advised of their roles in disasters as mandated by state

law. For example, in California anyone who collects a paycheck from a public source is a Disaster Service Worker, and is required to stay at work or return to work expeditiously to assist the department with disaster response activities. The Disaster Service Worker program is found in the California Emergency Services Act and in Government Code 3100-3109.<sup>54</sup> A model brochure for employee education is attached as Appendix Five. The department must develop a cache of water and medical supplies to support employees at work during disasters. Employees should receive educational materials that encourage them to develop their own personal disaster preparedness materials for self-support during a disaster response. A sample employee emergency kit flier is attached as Appendix F.

In order for staff members to stay at work, or return to work expeditiously, their family members and other dependents need to be prepared to deal with emergencies without the staff member. The transportation department should include family emergency preparedness information in all employee emergency preparedness briefings, and in the emergency operations plan training and continuity of operations plan training. A simple family plan template is included as Appendix G. Resources from FEMA are available on their website.<sup>55</sup> Good examples of family emergency preparedness resources are available on California's "Bear Responsibility" website.<sup>56</sup>

Once emergency workers have been trained on the NIMS emergency management methods and the specific emergency operations, COG/COOP and other plans, **exercises** should be held to evaluate the level of understanding of the materials, the functionality of the plans, and the ability to apply the plans in disaster situations. The federal Homeland Security Exercise and Evaluation Program<sup>57</sup> suggests a multi-step approach to exercises for emergency response staff members. First a seminar is held to review the material to be included in the exercise. Next a tabletop exercise is held where the elements of the plan are used in a discussion format of a disaster scenario. Next a functional exercise is held in the EOC where people use their plan checklists to guide their responses to calls, emails and requests during a simulated disaster. Finally, a full scale exercise like Golden Guardian is held with field elements and EOC elements working together to resolve a disaster situation. After each exercise an After Action meeting is held to evaluate the functionality of the plan, the need for plan updating and staff training, and the need for improvements. A matrix is developed from the After Action meeting that details what needs to be improved, exactly what steps must be taken, who is responsible for each improvement, and the date on which it must be completed. The emergency manager of the department is responsible to monitor the progress of the organization toward completion of the improvements, and to champion funding needed for the improvements at budget time.

In order for the emergency operations plan to be implemented there must be an **emergency operations center** (EOC) created where staff can gather to manage the emergency or disaster.<sup>58</sup> The EOC can be any space where the emergency operations plan staff members can gather to carry out their assigned functions. Some organizations have dedicated EOCs, but most use a training room, conference room or other existing facility that can be quickly converted to EOC use. The space must be large enough to house one full shift of emergency operations plan staff members. It must provide a seven-day power supply for lighting, communications equipment and HVAC, usually through a back-up generator. It must house adequate supplies of drinking water and emergency supplies to support the

emergency operations plan staff. Ideally it should have telephones and computers already installed, or easily accessible jacks where they can be installed at set-up. Dormitory and feeding space, break areas and adequate restrooms are also essential elements of the emergency operations center space.<sup>59</sup>



**Figure 6 St. Tammany Parish, Louisiana, EOC Sleeping Area**



**Figure 7 St. Tammany Parish, Louisiana, EOC Living Quarters**

Transportation department emergency operations centers are likely to be focused on engineering activities. As such technical equipment such as GIS software, large plotters and drafting tables may be needed. As in all EOCs, adequate copies of the plan, supporting documents and reference materials, and lists of existing contracts and approved contractors, are needed. Each person designated as a EOC Section Chief should assist in the development and supplying of the EOC to ensure that tools and equipment needed by his section to accomplish their tasks are available at all times, either by being stored in the EOC or being on the response checklist of all EOC staff members for that section. Up to date maps and “as-builts” drawings, for example, might be in use in day-to-day offices, but need to be brought to the EOC during emergencies. It is the emergency manager’s responsibility to educate the section chiefs on their roles so that they may determine the essential response support items.

Successful EOC maintenance requires that the EOC be set up every six months for an inspection of the supplies and equipment. Checklist items include rotating outdated water and medical supplies, ensuring that all software is kept up to date with the version in use in department wide systems, and verification of contact information for the EOC call out roster. In addition, the emergency back-up generator should be run for at least 24 hours every month to ensure its functionality, and the fuel should be recycled or consumed at least every six months.



**Figure 8 City of San José EOC Construction and Engineering Branch**

## **DISASTER RESPONSE**

During an emergency or disaster the planning and facilities that have been prepared become operational. The **headquarters EOC** for the state transportation department will have to be activated for any statewide disaster when a Presidential Disaster Declaration has been requested by the Governor, for any Governor's Declaration of a State of Emergency that involves transportation infrastructure or assets, either as victim or resource for first responders, and at the request of the Governor, the state's emergency management agency, or another state agency.

Activation requires the development of a list of individuals to fill each EOC position. Federal guidelines require that each position have three designated individuals who are trained to fill the role. This is essential because the EOC must operate for 24 hours a day, using two 12-hour shifts for the duration of the disaster. In order to provide for days off for the workers there has to be a third "roving shift" to backfill positions when the primary and secondary designees are on days off. In addition, not all primary designees may be able to respond for the first shift due to distance from the EOC, being out of town, or being personally incapacitated. Thus, "three deep" enables the first shift to be filled expeditiously by a trained person while others respond for later duty. The list of designees for each position and the 24-hour contact information for each person must be kept current. The emergency manager for the department is responsible to ensure that monthly updates are requested from each EOC designee.

The EOC designees may also function as a **chain of command under COG**.<sup>60</sup> If the department leadership is incapacitated, the next in the chain of command in the EOC may also become the next in the line of succession for both EOC and departmental

responsibilities. Recognizing that a catastrophe may destroy the headquarters building with its staff, the department-wide planning must include both alternate facilities in another part of the state, and the personnel from that district to fulfill both EOC and departmental leadership. Since an acting governor might need to convene all acting department heads to continue state government functions, the EOC's Management Section Chief must have several successors to fill the EOC role if he is called to the statewide acting department heads' meetings.

The state transportation department headquarters EOC provides a central focus for policy making and decisions that impact the department's budget, personnel and operations. While district level personnel may respond to the field in support of a disaster, and to the regional EOCs to coordinate with local government and local branches of state agencies, it is the responsibility of the headquarters EOC staff to support the work at the district level with technical, policy and political-relations activities. Decisions impacting interstate commerce, road use changes like overload permits, and emergency contracting for disaster-related repairs may all require headquarters level support, especially if they require any deviations from normal Standard Operating Procedures (SOPs)<sup>61</sup> by the district or the department. Disasters and catastrophes may pose more challenging problems not addressed in the SOPs that require decisions at the policy level. This could include off-budget contracts and expenditures, or the use of state-level transportation department personnel in non-traditional roles, such as cutting steel to clear a roadway, as at the World Trade Center on 9/11.<sup>62</sup>

Every EOC staff member must maintain a log of decisions and actions. An overall log is also maintained at the EOC level. In addition, Action Planning meetings are held periodically from which an EOC Action Plan is developed for the next operational period. The Planning/Intelligence Section chief creates a written EOC Action Plan based on the direction given by the Management Section Chief at the end of the briefing. The Finance/Administration Section maintains a roster of staff members working in disaster response, together with overtime logs, workers compensation logs and off-budget spending authorizations.<sup>63</sup> This documentation is essential for reimbursement of allowable expenses by federal agencies such as FEMA, and the Federal Highway Administration for on-system roads.

## RECOVERY

The department's emergency manager is the lead staff member for recovery, organizing the EOC's staff and assets to collect the data needed to acquire federal reimbursements. For all on-system roads, the state transportation agency may request **Federal Highway Administration (FHWA) Emergency Relief Assistance (ER) program**. These funds can be used to repair federal highways and on-system roads damaged in the disaster. ER has a \$100 million per state cap, so in a region-wide catastrophe the losses might exceed the reimbursement limit, although Congress can pass special legislation to raise the cap. The losses must be at least \$700,000 to qualify for aid. The federal share of repairs for interstate highways is 90 percent of the repair cost. For all other work the FHWA share is 80 percent. As shown in Table 1 below, work is divided into two categories: emergency and permanent. "Emergency repair work to restore essential travel, minimize the extent of damage, or protect the remaining facilities, accomplished in the first 180 days after the disaster occurs, may be reimbursed at 100 percent federal share."<sup>64</sup> Detailed



information on the ER program's requirements and exclusions, as well as information on applying for assistance, may be obtained in the *Emergency Relief Manual*.<sup>65</sup> A simplified explanation document, *A Guide to the Federal-Aid Highway Emergency Relief Program*, is also available online.<sup>66</sup>

**Table 1 Federal Aid Highway Emergency Relief Program**

<p><b>Emergency Repairs: Essential traffic, to minimize the extent of damage, or to protect the remaining facilities</b></p> <ul style="list-style-type: none"> <li>• Emergency detours</li> <li>• Removing slides and debris</li> <li>• Temporary bridges or ferry services</li> <li>• Regrading of roadway embankments and surfaces</li> <li>• Placing rip-rap to prevent further scour</li> </ul>
<p><b>Permanent Repairs: Restoration to pre-disaster condition</b></p> <ul style="list-style-type: none"> <li>• Restoring pavement surfaces</li> <li>• Reconstructing damaged bridges and culverts</li> <li>• Replacing signs, guardrails, fences and other highway appurtenances</li> </ul>

*Note:* Source: U.S. DOT, FHWA, *A Guide to the Federal-Aid Highway Emergency Relief Program*, February 2009, <http://fhwa.dot.gov/specialfunding/er/guide.cfm>.

However, the FHWA funding is limited to road surfaces and specific appurtenances. Off-road culverts, fill and drainage systems may not be covered even though they are essential to roadway operations. These costs would have to be requested from **FEMA under either Emergency Work funding (Category A–B) or the Permanent Work** categories (C through G) that require formal bids. Table 2 shows the categories of work under the Stafford Act and their descriptions.

**Table 2 Categories of Work Under the Stafford Act and Descriptions**

<b>TABLE II STAFFORD ACT</b>	<b>PUBLIC ASSISTANCE: CATEGORIES OF WORK</b>	<b>DESCRIPTION</b>
		<b>EMERGENCY WORK</b>
Category A	Debris Removal	Trees; building wreckage; sand/mud/silt/gravel; vehicles from public property
Category B	Emergency Protective Measures	Before, during and after a disaster: to save lives, protect public health and safety, and protect improved public and private property
		<b>PERMANENT WORK</b>
Category C	Roads and Bridges	Repair of roads, bridges, shoulders, ditches, culverts, lighting and signs
Category D	Water Control Facilities	Repair of irrigation systems, drainage channels and pumping facilities. Repair of levees, dams and flood control channels fall under D, but eligibility is restricted.
Category E	Buildings and Equipment	Repair or replacement of buildings, including contents and systems; heavy equipment and vehicles.
Category F	Utilities	Repair of water treatment and delivery systems: power generation facilities and distribution lines; and sewage collection and treatment facilities.
Category G	Parks, Recreational and Other	Repair and restoration of parks, playgrounds, pools, cemeteries and beaches; and other public facilities that do not fall under the other categories.

Information Reference: *Public Assistance Guide*, FEMA 322, October 1999, pages 44–60.

Table Source: Frances L. Edwards and Isabelle Afawubo, "Show Me The Money," *The Public Manager*, vol. 37, no. 4 (2009): 86.

After a disaster FHWA and FEMA will send representatives to conduct a **damage assessment** of the roadways involved in the disaster. The emergency manager will be responsible to match the damage assessment personnel with knowledgeable department personnel who can explain the circumstances of the damage and provide the required

documentation of the pre-disaster condition, the disaster damage and each step in the repair process.

The emergency manager must **assist with the creation of the FHWA ER applications**, and any applications to FEMA under the Stafford Act. To do this he will coordinate with the Finance/Administration Section Chief who is responsible to ensure that adequate documentation is developed at each step of the repair process to ensure federal reimbursement. Documentation will generally be created and collected by District field staff and supervising engineers for each project. Adequate, timely and complete documentation, including photographs of the initial damage and each phase of the repair, is essential for reimbursement. The state emergency management agency staff may be able to provide training on the FEMA reimbursement process.<sup>67</sup>

Federal agencies typically provide about 60 percent of their cost share funding at the time of the disaster. Within the next six years a formal **audit** will be held of the projects and a project close-out will result in making a final determination of the amount of federal support for the repair and replacement work. The emergency manager is responsible to collect and protect all the logs and Action Plans from the EOC for use during the audits, as timely decisions based on available information are important to the reimbursement process. When the federal agency's final financial offer is unacceptable to the department, the emergency manager will have to coordinate an **appeal** through the state's emergency management agency. The emergency manager will have to organize the appropriate staff and records to attend meetings with this entity, and ultimately with the federal authorities to press the appeal. The EOC documentation is again an important part of the process, demonstrating when and why decisions were made.

## MITIGATION

The state is responsible to have a Disaster Mitigation Act 2000 (DMA 2000) compliant plan for disaster mitigation in the state. The lead agency for the plan is the state's emergency management agency, but the state's transportation agency also has a role in the development of the plan, and is a significant partner in the ongoing development and maintenance of mitigation activities in the state. For example, Caltrans' extensive bridge seismic retrofit project is an important element of that state's earthquake hazard mitigation plan. The emergency manager must be familiar with the state's mandated Multi-Hazard Mitigation Plan (SHMP), and transportation's on-going role in it.<sup>68</sup> For example, the state's transportation agency's regional planning effort needs to be tied to other regional transportation planning focused on safety and hazard mitigation. Bringing together the council of governments' regional planning team with the state's transportation agency's district staff located in that region could be a role played by the emergency manager.

One benefit of the SHMP is that it includes additional information to comply with federal requirements for enhanced reimbursements. This means that the state may be eligible to receive disaster hazard mitigation project funding equal to 20 percent of the total Stafford Act-related disaster assistance funding received after each federally declared disaster, instead of the standard 15 percent.<sup>69</sup> The state's transportation agency's emergency manager will coordinate with staff to apply for mitigation funds for transportation projects

from the available mitigation funds. He will work with the state's emergency management agency to ensure that transportation's needs are included in state-level applications for federal mitigation assistance.

Each state is also eligible for pre-disaster hazard mitigation funds from a variety of federal sources. Tables contained in the SHMP outline federal mitigation funding available from FEMA, Environmental Protection Agency, National Oceanic and Atmospheric Administration, Army Corps of Engineers, Fish and Wildlife Service, Housing and Urban Development, Bureau of Land Management, Department of Agriculture, disaster relief from a variety of agencies, and research support.<sup>70</sup> A SHMP should also include a description of the transportation agency's role in the state's overall disaster mitigation efforts.<sup>71</sup> The transportation agency emergency manager would be a partner with the emergency management agency in the every three-year revisions of the SHMP, as well as contributing to mitigation coordination activities with other state agencies.



**Figure 9 Emergency Preparedness: Preparing a Section of Highway in San José for Mudslide Containment**



**Figure 10 Emergency Preparedness: Building Trusses to Prevent Mudslides in Downtown San José**



**Figure 11 Santa Clara County Fire Department's Technical Assets Truck**



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# THE ROLE OF THE DEPARTMENT OF TRANSPORTATION HEADQUARTERS EOC

## ROLE AND PURPOSE OF THE HEADQUARTERS EOC

The headquarters EOC is the coordination point for all department-wide disaster response activities. While the event may occur in one district, the magnitude of the event will require the department to undertake activities outside of its budget, and perhaps undertake non-traditional roles in support of another organization. For example, a new road may have to be built to an evacuation point within a state park.

Furthermore, the work that the transportation agency is requested to do may require a higher-level policy decision, such as choosing to use a non-bid contract. For example, following the Northridge Earthquake in 1994, Caltrans for the first time used a contract that rewarded the contractor for finishing early. Because the loss of the I-10 freeway through Los Angeles was costing the local economy \$1 million per day, the decision to give monetary reward for early completion was deemed essential to ensure that the worked moved along swiftly, but many political activists raised questions about the strategy. Thus, the support of the professional engineering and executive staff in the Caltrans headquarters EOC providing a cost/benefit analysis of the strategy was crucial for Governor Wilson's ability to approve this departure from what was then seen as "normal" state contracting.<sup>72</sup> The success of this strategy led to its being used again in 2007 when a MacArthur maze bridge was destroyed in a truck accident leading to a fire.<sup>73</sup>

When the work requested of the state transportation agency will have a political impact on a community, the governor may ask for advice and alternatives from the agency's director. For example, decisions about the allocation of scarce resources and the order in which roadways will be cleared of debris and reopened can be politically sensitive for the elected officials from the impacted area, as well as for the governor. The decision to order an evacuation of a community may require advice from the state transportation director on available routes and the advisability of evacuation based on road capacity. Likewise, a decision to use even partial contraflow<sup>74</sup> will be controversial and have significant impact on the communities where contraflow is implemented, again leading to political pressure from locally elected officials. The support of the state transportation agency's senior staff would be crucial to the governor in making an effective decision, and in explaining the decision and its impact to the media and the residents of the state.

The state transportation agency may also be called on to provide agency-level support. For example, the disaster may lead to the closure of roadways that are essential for emergency responders. The state police may ask for routes to be opened in a specific order, based on their knowledge of the emergencies that need to be addressed. Especially in wildland urban interface fires, the changing wind direction and availability of air drops of flame retardant may mean that bridges and roads need to be inspected and opened rapidly and in a specific order. The transportation department's headquarters EOC would have the ability to coordinate resources from across all transportation agency districts to meet the evolving needs of the first responders.

Interagency assistance may also be requested that falls outside the traditional transportation mission. For example, the state's housing department might request transportation's assistance in preparing sites for FEMA trailers to provide interim housing for disaster survivors. What policy has been set at the local level for the siting of such communities—a large central park or disbursed parks throughout the community? Who will pay for the transportation department's work? What impact would this have on high priority taskings for emergency response roadway needs? What about cross modal impacts on bus and other transit services? Who would be responsible for the maintenance of the temporary roads and for the ultimate dismantling and restoration of the area? How would these requests fit with the federal level planning? Questions like these would require executive level decisions within the headquarters EOC in support of the regional EOCs and State Operations Center (SOC) activities.

One role of the headquarters level EOC is to ensure that the state transportation department is coordinating with federal and local entities in its work. All disasters are local, according to both former FEMA director James Lee Witt and current director Craig Fugate.<sup>75</sup> Transportation agency representatives in the regional EOC will need headquarters EOC-level support in determining which taskings to accept and which priorities to accept. Political decisions about which community to respond to first and what activities will be done for one before doing work for another all carry implications that must be considered at the executive level. Reimbursement for work performed is only available when appropriate coordination has occurred between the state agency and the regional EOC's action plan for the incident period.

Another key role of the headquarters EOC is to ensure that all of the agency's essential functions continue during any level of emergency. Headquarters EOC staff members must allocate resources first for their own essential functions, and then to support state essential functions, and finally to contribute as requested to the maintenance of federal mission essential functions and primary mission essential functions, as defined in the Federal Continuity Directive. Headquarters EOC staff will determine which assets can be released for non-transportation agency activities, based on the ability to maintain their own essential functions, considering whether the request would cause a deficit in priority A or B functions.

Finally, the headquarters EOC may have to coordinate department-wide efforts on behalf of the disaster area. Which county will have its road projects stopped while staff and equipment go to the scene of the disaster? The headquarters EOC becomes the "one voice" for "one transportation department" across the districts, where there may be disagreement about priorities and diversion of scarce resources and funds to the disaster.

## **RELATIONSHIP TO THE DISTRICT FIELD ACTIONS**

All disasters must be managed with the use of ICS and NIMS. This means that at the field level the transportation agency responders will be integrated into the existing Incident Command, probably led by a fire or law enforcement incident commander. Transportation could appropriately be a part of the Construction and Engineering unit in the Operations Section,<sup>76</sup> as open roads are the key to most disaster response. Transportation might also



be seen as a logistics asset for moving crucial supplies within the disaster area. The state transportation agency staff member will be an active member of the field level response area in every disaster-impacted community.

However, field level disaster support may not be included in the state's budget. For example, on July 28, 2009 Governor Schwarzenegger signed the 2009-2010 budget for California, noting that the state's emergency reserve was only \$1 billion, while facing a year round "fire season" that could wipe out that fund.<sup>77</sup> The state level transportation agency's budget included a suspension of Proposition 1A and a loan from the State Highway Fund.<sup>78</sup> A disaster during this budget cycle will result in further reallocation of funds from planned work to emergency work, often without the likelihood of complete federal reimbursement.<sup>79</sup> Therefore the executive leadership of the department will have to determine which projects to suspend or eliminate to pay the cost share of disaster response and recovery. Such decisions are discussed in the headquarters EOC to develop a consensus and set priorities across the organization.

Likewise, in order to fulfill requests for support from local, regional, agency and statewide entities, the transportation agency may have to negotiate contracts for emergency work, restoration, and materiel outside of the budget and annual planning. Authorization to redirect funds to new obligations can only come from the transportation department's executive level. The department must have a specialist familiar with FEMA and FHWA contracting requirements to ensure that the transportation department follows all the requirements for each type of contract to ensure maximum reimbursement. This includes knowing the most recent changes in federal regulations regarding bidding and documentation of damage.

To facilitate rapid response the transportation agency may want to include a disaster clause in its construction contracts, which cities like San José, California have had. These clauses state that if a disaster occurs in the community during the period of the construction contract, the transportation department's lead officer for the contract can redirect personnel and equipment to disaster response and recovery work at the contract rate, with the understanding that the contract will be extended for the number of days the work was diverted without penalty to the contractor.

A list of existing open purchase orders and contracts is also an asset to the headquarters EOC as they manage demands for resources. These mechanisms may permit the rapid acquisition of supplies and materials, understanding that future extensions and additional funding will be needed for the budget year for the normal work to progress.

Disaster response will typically require augmentation of personnel on duty. Some staff members may be required to work longer, nontraditional shifts, as in the 12-hour shifts typical in EOCs. Other staff members may be required to do work that is outside their normal scope, such as an engineer logging information for an EOC section, or field staff working under the direction of a fire incident commander. Staff members with specialized training may be required to work outside of their normal district assignment to support the disaster response and recovery. While the Disaster Service Worker laws referenced above give the state the authority to make personnel changes, executive leadership needs to endorse such decisions and ensure department wide equity in the way personnel are

selected for non-traditional assignments. Issues like shift differentials, hazardous pay, and overtime may require meet and confer with union representatives.

## **RELATIONSHIP TO THE REGIONAL EMERGENCY OPERATIONS CENTER**

Each of the transportation department's districts may have its own EOC. The district EOC (DEOC) can manage all normal local demands for support and service. Localized emergencies like flash floods, small landslides, power outages for a limited time or over a limited area, are routinely managed by district personnel, either as an independent agency or in concert with the regional EOC. The DEOC has authority within its district emergency operations plan to take action to resolve routine emergencies like hazardous materials spills on the roadway, snow storms and transportation accidents. The district director has authority to reallocate some of the district resources without further authorization. However, a regional event is likely to consume more resources than are under the discretionary control of the district manager, and may have to be referred to the headquarters EOC for adequate support.

Transportation agency districts may be located in state emergency management agency sub-state regions, as well. Depending on the location of the disaster a transportation district representative may be requested by the regional EOC. In regional events the regional EOC may be the initial point of coordination between local communities and state assets. The regional EOC collects the requests for assistance from the affected communities, makes a list of requested resources, and negotiates with state agencies regarding the provision of the needed resources. The transportation agency's representative may accept tasking on behalf of the local district if the work is within routine capabilities. If it is likely to exceed the district's budgeted allocation for such work, or to require off-budget expenses and contracts, the district representative will have to refer the request to the headquarters EOC to get permission to reallocate funds or other resources.

The headquarters EOC's relationship to the regional EOC is one of coordination and support. Headquarters EOC staff will assess the capability to accept the tasking, the ability of the transportation agency to pay for the resources in the short term, and the suitability of the transportation agency as the provider. Because FEMA will not reimburse for regular staff during normal working hours, it may be appropriate to tell the requesting jurisdiction to obtain a contractor to do the work, since getting FEMA reimbursement for contract work is more likely and easier to document. The transportation agency may determine that the request from the regional EOC is inappropriate because of the specialized nature of the work or the danger involved in doing the work. In either case headquarters EOC staff may decline the tasking and suggest that it be referred to federal resources or contractors.

## **RELATIONSHIP TO THE STATE OPERATIONS CENTER**

The transportation agency representative at the State Operations Center (SOC) represents transportation's statewide assets at the state collaboration center, as well as the assets of all transportation providers in the state. Representation at the SOC permits the transportation agency to both give and receive assets and support in disaster response and recovery. The state transportation agency serves as the overall transportation representative, and uses the personnel in the headquarters EOC as brokers within the department to determine

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what can be offered and what assets they need to acquire. Assets may come from any other agency within the state, through contracts, or through federal assets mobilized under the Stafford Act. For example, if a landslide has to be cleared from a road, and the transportation department's equipment is in use, they might get a bulldozer from the state fire agency, or a Department of Corrections inmate trustee hand tool brigade, to accomplish the road clearance task.

Once the transportation agency has determined its ability to maintain its essential functions, its next priority is support of state essential functions. The representatives in the SOC will collect all the resource requests from state agencies and set priorities for the allocation of scarce resources. Note that the 24 items in Appendix C detail the transportation agency, state and federal essential functions that have priority during disaster.

Another function of the SOC is to permit face-to-face negotiation among state departments for coordination of support activities. The transportation department's maintenance of the highway infrastructure makes it central to most emergency response and recovery operations. Among the items to be negotiated at the SOC are issuing oversize and overload road use permits for delivering disaster goods; establishing and undertaking priority road repairs to support emergency response actions; and providing personnel and equipment to support emergency response actions. In addition, through the contacts at the SOC, the transportation agency may receive federal Department of Homeland Security notifications that will require a response orchestrated through the headquarters EOC. Transportation representatives will also work with state agencies to expedite emergency contracts for the work assigned and taskings accepted.

The transportation agency's headquarters EOC manages all agency wide and politically sensitive issues, ensures that internal, state and federal essential functions are given priority in the assignment of resources, and supports the SOC in its allocation of statewide resources.



**Figure 12 Dallas EOC**



**Figure 13 Dallas EOC Radio Room**



**Figure 14 City of San José EOC Ops Section**



**Figure 15 San José Fire Department  
Mobile Emergency Operations Command Van**



**Figure 16 Interior View City of San José Fire Department's Mobile Emergency Operations Command Van**



**Figure 17 Additional View San José Fire Mobile Command Van**

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## THE HIERARCHY OF EMERGENCY PLANS

### Field Level SOPs

As has been noted above, disaster response at the field level must be ICS compliant.<sup>80</sup> As such it is guided by standard operating procedures (SOPs) that describe the actions to be taken in specified circumstances. SOPs typically define day-to-day emergency response roles, and are expandable to large scale events. By pre-planning for common events the methods for managing to a successful outcome can be developed and refined with each event, to ensure safety and efficiency of actions.

### Emergency Operations Plans

Emergency operation plans represent the next level up of planning for emergencies. When the field command cannot manage an event independently, the emergency operations center is opened to provide coordination and resources to support the field effort. The emergency operations plan must be based on NIMS, replicating the five key ICS functions within the EOC structure. This makes communication between the field and EOC functions seamless, as each section finds its counterpart at the other level, and shares information and makes resource requests. The Operations Chief in the EOC has direct contact with the IC in the field, obtaining the Incident Action Plan goals and objectives to share with the EOC Action Planning meeting, and in turn sharing the EOC action period goals with the field.

The emergency operations plan has a standard format made up of a Basic Plan and related annexes. The Basic Plan includes the legal authorities and references, continuity of government and continuity of operations statements, vital records protection protocols, and a community threat analysis. Supporting plans, which are generally maintained as separate documents for ease of revision, become a reference set in support of EOC activities. These will include some event specific plans, such as the hazardous materials response plan, and lists and directories like personnel call back plans.

The emergency operations plan's five organizational annexes—management, operations, planning/intelligence, logistics and finance/administration—focus on the worst-case scenario for the community. In California, for example, most emergency operations plans in the western portion of the state focus on earthquakes, while the eastern portions may focus on fire, flood or weather related disasters.<sup>81</sup>

These are then followed by hazard specific annexes for the designated major threats to that particular community, such as floods, wildland urban interface fires, power outages, terrorism, airplane crashes or dam failure. These event-specific emergency response annexes are an integral part of the emergency operations plan, and provide specific guidance to EOC personnel for actions required for these events that are not required for the worst-case threat around which the emergency operations plan is based. For example, a wildland urban interface fire plan would include guidance for evacuating threatened neighborhoods, while a terrorism plan would list resources and assets to be used for specific types of attacks, like personal protective equipment or antidotes for chemical agents. Annexes

are created when the response must include the full departmental EOC organization with specific changes in response actions from the basic emergency operations plan.<sup>82</sup>

In contrast, independent incident specific plans may be developed when the response will be led by one department with other departments in support, but in a configuration different from the basic EOP. For example, law enforcement has plans for civil unrest interdiction that may require a Fire EMS unit to be on standby, or a transportation team to provide barricades and delineators, but where no department wide efforts are required of others, and where the SOPs are well understood. However, if the situation escalates to greater community involvement or threats to critical infrastructure, then the EOC may be opened and the emergency operations plan would be used. Independent incident specific plans may include response to a pandemic, which may be managed by human resources; a work place violence response plan, which may be managed by a law enforcement agency; or a business continuity plan focused on telecommunications infrastructure, which may be managed by information technology.

### **Catastrophic Emergency Response: COOP and COG**

Some events are so large or so intense that they overwhelm even the best emergency planning. Another level of preparedness is required to ensure that such catastrophic circumstances do not prevent government agencies from delivering the crucial life safety services to the community. While SOPs describe how normal emergencies will be managed at the field level, and emergency operations plans describe how the community will organize through the emergency operations center to deliver emergency response services, even in events that exceed normal internal capabilities, the **continuity of operations plan (COOP)** describes how in the most extreme circumstances the department will maximize its ability to provide the crucial essential services within the department to ensure its functionality, and to state and federal partner agencies to allow them to deliver their services to the damaged community.

A COOP plans for a set of critical activities that must continue to operate, even in the worst circumstances. The **essential functions** concept is the base of the plan. An example plan for a state level transportation agency found in Appendix C identifies 24 typical activities that must be carried out to support department, state and federal services. Department level functions are generally directed at keeping the organization functional, and then at delivering critical services. These are dictated by the roles that a state level transportation agency must play in disaster response and recovery. These focus on the operation and maintenance of the state highway system, responding to emergencies that affect the state highway system, and providing information about the condition of the state's transportation system to government and private entity partners. These are outward facing responsibilities and activities, and fall back on the SOPs and emergency operation plan to describe the resources and personnel that will implement them.

In order to keep these activities going, some inward facing activities must also be continued. These include establishing an emergency work site, and providing safety and security for the staff there, and maintaining the telecommunications and IT network infrastructure, to support the department's emergency response in the field. Existing safety and security



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plans and the IT business continuity plan will be the basis for the resources and personnel to operate in these areas.

Some of the department's essential functions are also essential to the state for it to perform its duties. Operation and maintenance of the roadways and response to emergencies on them are also state essential functions. Procurement and contracts for the goods and services needed to operate and maintain the roadways and respond to emergencies are also important to both the department and the state's emergency operations. For the most part the department's priorities match the state's essential services needs.

The federal government has established its COOP with two levels of essential functions: primary mission essential functions (PMEFs) and mission essential functions (MEFs).<sup>83</sup> The federal government has then categorized these into activities that are the responsibility of the state and its entities to perform as an arm of the federal government. A good example is Task 9, providing building security, which is a federal MEF, although on its own it might not have been an essential function from the department's perspective. Similarly, inspection of local bridges is a B level essential service for the department, but a MEF for the federal government. Thus state level transportation agencies may perform functions driven by external priorities of the federal agencies.

In a catastrophic event the chain of command may be disrupted. Due to the severity of the disaster the transportation agency's leadership may be killed, incapacitated or prevented from returning to the headquarters or alternate sites. For example, after the 9/11 attacks, Secretary of Transportation Norman Y. Mineta ordered all the commercial aviation out of the sky. FEMA officials were at a meeting in Idaho, and special arrangements had to be made for them to get an emergency flight home. During the time that they were out of town and out of communication the response by FEMA had to continue, and was based on the chain of command that had been established. As mentioned earlier, having a chief deputy and deputy directors, and a standing line of authority, facilitates filling all crucial emergency management positions even in the absence of the executive staff. Having EOC staff trained at least three deep for each position, and having common training for all EOC staff members, makes it possible to maintain emergency operations and to make policy decisions because the common framework has been set. The emergency operations plan will have the basic line of succession in the Basic Plan, but the COOP may have a more elaborated organization for use in catastrophic events. A model for a line of succession is found in Appendix H, Lines of Succession.

One possible catastrophe is the loss of the headquarters building. Since 9/11 the tendency is to think about a terrorism attack, but a fast moving fire, an accidental gas leak and explosion, or a tanker truck explosion on the adjacent street could all lead to the catastrophic failure of the building and the deaths of and injury to many of its occupants. The transportation agency also has to consider other natural disasters endemic to its area that can cause destruction of the building or cutting headquarters off from communication with its districts and other agencies, such as earthquakes, floods, tornadoes, hurricanes or severe winter storms. Such events could cut the headquarters building off from all infrastructure, as utilities fail and roads are impassable. For this reason alternate sites must be selected to serve as rallying points for the remaining chain of command where the emergency operations center can be reconstituted and staff can conduct the department's essential functions.

**Alternate sites** selected must be based on considerations of the threats to safety, access when the headquarters is experiencing a disaster, availability of infrastructure and resources when the capital is experiencing a catastrophe, and adequate space to provide meeting room for the emergency operation center staff, and the needed support services. Types of alternate facilities are listed in Appendix I: Alternate Facilities for Headquarters.

Finally, continuity of operations depends on **vital records** being available. Detailed analysis of vital records will be undertaken in a future project.

The last element of catastrophic emergency management is the **Continuity of Government** (COG) plan. With its roots in the civil defense era, the COG was intended to provide for the maintenance of constitutional government in the United States. In the context of a state level transportation department, this is the element of catastrophic planning that ensures that department executive staff will be available to the governor or acting governor at the alternate seat of government to advise on the condition of state transportation infrastructure, make commitments of department resources for the fulfillment of gubernatorial directives, and coordinate and collaborate with federal entities that may be mobilized under the catastrophic annex of the National Response Framework.<sup>84</sup> The FEMA guidance specifically states that the COG is not a stand-alone document, but a part of the overall emergency preparedness of the department. The best practices COOP COG documents integrate COG with the emergency operations plan and the COOP's lines of succession.

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## **ADDITIONAL ACTIVITIES TO LEAD TO A FULLY MATURE EMERGENCY MANAGEMENT PROGRAM, INCLUDING COOP AND COG WITHIN THE STATE LEVEL TRANSPORTATION AGENCY**

This research project was intended to lay the groundwork for a second contract period that would continue with the review of the COOP and COG plans in the context of department wide emergency planning. A series of priorities needs to be set to develop a mature management capability for emergencies, disasters and catastrophes. Because transportation agencies typically have significant experience with “normal emergencies” on the roadways, and routinely work with state police and state fire agencies in disaster situations, some elements of a mature emergency management capability have not been emphasized. The following activities should be completed by a state level transportation agency to ensure a robust response and recovery capability.

Each state level transportation department should establish, staff, and equip a headquarters EOC that is appropriate to support major disasters and catastrophes within the state. This includes establishing a well-equipped facility, and a well trained staff at least three deep for each position.

The headquarters emergency operations plan should be reviewed to ensure that it is fully NIMS compliant. One goal of NIMS is to have common terminology across all state agencies for interoperability and mutual support. Therefore, all nomenclature should be revised to comply with NIMS terminology throughout.

All of the district plans should also be revised to be fully NIMS compliant, following the same consistent template throughout the organization. While the size and complexity of the plans will vary, the format and basic information should be the same in all districts. Again this would demonstrate compliance with the spirit of the NIMS regulations, permitting employees to go to any district EOC and operate effectively.

To ensure that EOC staff can perform their duties the state level transportation agency should ensure that adequate and appropriate training is offered both at headquarters and in every district. EOC staff should be required to complete the on-line IS-100, -200, -700b and -800b. The Director should mandate full participation by all EOC staff members at each level. This is essential to ensure federal reimbursement of emergency response costs under HSPD-5.<sup>85</sup> The emergency manager would then develop a rotating training schedule to ensure that all transportation agency staff members receive the required ICS/ NIMS training upon assignment to the EOC.

The transportation agency should hold an exercise in each EOC to practice the use of the headquarters or district EOC plans and facilities. The exercise should include a real time set up of the facility and a tabletop exercise in the facility using the emergency operations plan and an appropriate scenario for that district or headquarters. After each exercise an improvement matrix should be developed, and the emergency manager should work to

implement the improvements when they are within the budget, and work to get grant or other funding for the improvements when they are not within the budget. Exercises should then become a regular part of the emergency manager's event schedule.

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## APPENDIX A: EXAMPLE STATEMENT OF WORK FOR EMERGENCY MANAGEMENT CONTINUOUS IMPROVEMENT CYCLE

### Specific Tasks and Deliverables

1. Review and evaluate existing Departmental documents and plans, and provide recommendations to eliminate/reduce gaps to create a fully mature COOP/COG plan.
2. Prepare for Southern California Golden Guardian exercise, review EOC checklists, framework for district plans and current COOP/COG.
3. Define essential functions from a top-down perspective and evaluate the currently proposed list of essential business functions against this definition.
4. Create Project Plan to implement strategy and steps needed to align the department's current COOP/COG plan to National Incident Management Systems (NIMS) and the State Office of Emergency Service COOP/COG components.
5. Identification/Validation of Department's Point of Contact(s) (POC) for COOP/COG and Emergency Response.
6. Conduct Executive Management Workshop including:
  - Validate/Update Department's Delegation of Authority
  - Validate/Update Department's Essential Business Functions
  - Recommend efficient organizational emergency management structure (e.g., command and control)
7. Develop and provide a documented Work Breakdown Schedule addressing the necessary steps to achieve a level of preparedness consistent with the responsibilities required by the State Office of Emergency Services (OES) State Emergency Plan.



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## **APPENDIX B: STATE TRANSPORTATION AGENCY HEADQUARTERS LEVEL TABLETOP EXERCISE**

**Agency Participants:**

Director  
Chief Deputy Director  
Deputy Director (s)  
Emergency Manager  
Emergency Management Staff

**Caltrans Staff Observers:**

Emergency Management Committee members

**Consultant Staff:**

Exercise Director  
Chief Facilitator  
Chief Evaluator

**Executive Summary**

As you are aware, the State Office of Emergency Services (OES) and the Office of Homeland Security (OHS) are sponsoring a large-scale State, Federal and local exercise, which posts a major disaster. The Department of Transportation has played a significant role in the planning for this event, especially in the posited disaster area, where they provided considerable expertise in developing accurate damage estimates.

On November 17, the Exercise will include a “Recovery: D+30” exercise. This is the first time that a statewide recovery exercise has been held. Here in the capital, the Agency that includes Transportation will hold an executive level tabletop exercise (TTX) using the “Recovery: D+30” theme, and focusing on cross agency and intra agency implications and possible support of the State’s recovery effort. The Transportation participant(s) have not yet been identified, but could be either someone from headquarters or a district director.

On October 31, MTI conducted a TTX at Headquarters to help prepare the possible Agency TTX participants to represent the department. The exercise included a brief review of executive functions in disasters, a presentation of the scenario, and D+30 conditions. Each participant was provided with a notebook that included PowerPoint slides of the TTX sections, and a supplementary resources section with additional information about the exercise. In addition to Chief Deputy Director, ten senior managers were in attendance. One deputy director participated via conference call and was provided with the relevant materials electronically before the exercise began.

**Goals:**

- Review the role of Transportation in earthquake disaster response.
- Review the role of Transportation in recovery operations.
- Ensure that all potential Transportation representatives to the Agency TTX are familiar with the department's resources and probable Agency coordination actions.
- Test the participants on probable executive level recovery issues and implications for Transportation and other elements of Agency.
- Encourage a greater sense of unity and shared responsibility for Transportation and its responsibilities during disasters and incidents of state-wide significance.

**Exercise Evaluation:**

At the end of the exercise, every participant and observer was given post-it notes to use in answering four key questions: what went well; what additional training do you need; what additional activities are needed; what was missing from today's exercise that is needed before the Agency exercise?

**Strengths:**

Nine of the possible representatives to the larger Agency TTX participated in person, with an additional deputy director participating by conference call. Five Caltrans personnel associated with the Information Security and Operational Recovery Division served as observers. Three representatives of MTI led the review and tabletop exercise.

Many participants had extensive disaster response experience, and knowledge of department resources and how to access them in addressing operational tasking. They were able to apply their knowledge to the earthquake scenario, and the exercise injects which followed.

Participants made the transition to recovery, continuing to apply the knowledge of Caltrans resources to the new circumstances of an intermediate term recovery scenario.

All participants were fully engaged in the exercise, and offered creative input to new scenario activities.

**Areas for Improvement:**

- EOC staff would benefit from a department-provided training on disaster activities and terminologies.
- Additional efforts are needed to encourage the recognition of shared responsibility during man-made and natural disasters. The Exercise Scenario falls short in recognizing the major implications to Departments and Agencies outside the impacted area. Districts in the unaffected part of the state will likely be required to provide considerable manpower and resources.
- All managers should understand the kinds of information that their superiors will require during major incidents, and the types of decisions that they will have to make.



- During discussions it was indicated that the department might benefit from holding discussions regarding identifying potential standby emergency authorities which may be needed in order to better support the Response and Recovery effort during declared emergencies. Perhaps this is something that might be undertaken by the Legal Office in coordination with OES and the Governor's Legal Affairs Secretary. This was done at the federal level with U.S. DOT.
- Tabletop exercises should be held more often and for more agency staff to solidify the group's knowledge and enhance the knowledge of newer senior staff personnel. This would also enhance the development of a "One Department" frame of mind during major incidents.
- NIMS training should be provided to all department personnel who would participate in a district, department, regional, statewide or agency operations center during a disaster.
- Legislation is needed to ensure that all transportation field personnel are fed during emergency events, even though they are not currently regarded as "first responders" within state law. (Note that HDPS-8 does include them under federal definitions of first responders.) Department leadership staff members have begun the process, and it should be considered a department priority.

### **Participant Responses:**

#### **What went well?**

- Informational presentation was good background for the exercise
- Having everyone together, working as a group, teamwork
- Real world examples that required responses
- Good discussion, responding to scenarios
- Using two teams to play off of, acting as a group
- Good follow-up review
- Questions raised awareness
- Questions fit the earthquake scenario
- Flowed nicely
- Stayed on time, concise, good planning and execution
- Expertise of instructors
- Conveyed lessons learned with lots of experience

#### **What additional training do you need?**

- Refresher courses, more often
- More tabletop exercises
- Review NIMS training
- Understand hierarchy of NIMS systems above the Incident Commander level
- Something that explains tasking, organizational structures
- More department-specific training on how internal processes work in a disaster, including down to the Deputy Director and Deputy District Director levels
- Executive Order authority options
- COOP Awareness training for executive management once COOP is finalized
- COOP Functional exercise once COOP is developed

- More examples or scenarios may be helpful but would require additional time
- Better understanding of my role

**What additional activities are needed?**

- Debrief after exercise
- EOC Scenarios and large scale impacts
- More complexities of inter agency and local effect
- Functional exercise with local government, other state agencies and federal agencies
- Functional exercises with all managers

**What is needed before the November 17 Agency exercise?**

- More discussion of possible actions at the Agency exercise
- Sense of what is going on in the field
- Interaction with the staff in the region impacted by the earthquake
- Other agency/department roles in scenarios
- Large scale options overall
- Additional information regarding interface between Transportation Headquarters and OES EOCs, Logistics Planning for food, shelter and care (e.g. first responder)

**Conclusion:**

Transportation headquarters staff members participated fully in the TTX. They offered creative answers to the challenges posed by the scenario. Additional training and exercises would allow newer staff members to gain practical knowledge from more experienced department leadership. Staff members who attended the TTX should be prepared to represent the department at the Agency level and provide some valuable discussion points. [Note: those who represented the department agreed that they were prepared and confident, and able to make many contributions to the agency-level discussions.]

Prepared by:

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## APPENDIX C: TYPICAL ESSENTIAL FUNCTIONS LIST

#	Operating Unit	Essential Functions	Priority (A,B,C)	State Essential Function	PMEF	MEF
1	District	Perform essential operation elements for State Highway System (SHS)	A	X	X	
2	District	Perform essential operation elements for State Highway System (SHS)	A	X	X	X
3	District	Respond to emergency situations that affect the safety and operation of the State Highway System	A	X	X	
4	External Affairs	Provide transportation system information to government entities, private sector and general public	A	X	X	
5	Human Resources	Emergency worksite (Headquarters/District Office) hazard analysis	A			X
6	District	Emergency worksite (Maintenance/ Equipment Shops) hazard analysis, activate COOP, Alternate Site, evacuate, shelter in place	A			X
7	Procurement and Contracts	Facilitate emergency contracts and procurement.	A	X	X	
8	Procurement and Contracts		A	X	X	
9	District Director, Administration, Facilities & Security		A			X

10	Division of Accounting	Safeguard the funds collected	A	X	X	
11	Maintenance & Operations	Maintain the telecommunications (e.g. email, payroll) infrastructure)	A	X	X	
12	Maintenance & Operations	Perform inspections of local bridges	B			X
13	Maintenance/ District/HQ	Respond to Homeland Security alerts	A	X	X	
14	Division of Traffic Operations, Truck Services	Issue transportation permits for oversized/ overweight vehicles	A	X	X	
15	District Planning & Modal Programs	Coordinate and provide mutual aid to Regional Transportation Planning Agencies, Metropolitan Planning Organizations	B			X
16	Division of Accounting	Process vendor and government agencies' payments timely and accurately	A			X
17	Division of Accounting	Collect all disaster moneys owed to the Department, including Federal funds	A	X	X	
18	Information Technology	Maintain the network (e.g. email, Novell, etc.) infrastructure and software (e.g. CAD, GIS, MS Office Suite, etc.) systems	A	X	X	
19	District	Management of ongoing construction projects (e.g. financial, project oversight, safety, project process, supervision)	B			X
20	Division of Human Resources	Pay employees and maintain leave and benefits	B			X
21	Procurement and Contracts	Facilitate non-emergency contracts and procurement	C			

22	Procurement and Contracts	Acquire and distribute non-emergency goods and services	C			
23	Director, Deputy Director	Direct the Department's emergency response and recovery efforts; order activation of COOP; activation of alternate facilities; support the State emergency response effort; ensure Departmental coordination with local and Federal response agencies	A	X	X	
24	Planning & Modal Programs	Ensure the safety of general aviation airports and helipads within the State	B			X

Notes: MEF = Primary Mission Essential Function; MEF= Mission Essential Function  
Source: DHS, Federal Continuity Directive 2 (FCD 2), *Federal Executive Branch Mission Essential Function and Primary Mission Essential Function Identification and Submission Process*, February 2008





## APPENDIX D:

### MODEL MEMO TO DIRECTOR REGARDING PLACEMENT OF EMERGENCY MANAGER

**TO:** Director  
State Department of Transportation

**FROM:** Senior Staff Member

**DATE:** January 1, 2010

**SUBJECT:** Office of Emergency Management Structure

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\_\_\_\_\_ Request for Approval

\_\_\_\_\_ For Information

\_\_\_\_\_ Request for Discussion

\_\_\_\_\_ For Signature

#### **BACKGROUND:**

The Department is performing a COOP/COG Plan update effort. The Department has authorized an outside consultant to review the Department's Emergency Management organizational structure and provide concurrence or recommendations based on their institutional knowledge and federal/state and local models.

#### **DISCUSSION:**

Emergency management is an executive function under the State's Emergency Services Act. The State Emergency Management Agency is part of the Governor's Office, and most large cities have placed the emergency function in the city manager's or mayor's office.

Emergency management is an overarching activity that covers all sections within a department. Its primary role is to coordinate the work of all the elements of the department to ensure the best planning/preparedness, response, recovery and mitigation possible for each identified threat to the State and its inhabitants. The emergency plan is written to ensure that all the essential functions of the department are performed in all emergencies and disasters, while the COOP/COG addresses the delivery of those functions in an extraordinary disaster event.

Currently the department has placed the emergency management function within a Division. While the Deputy Director for the Division has this as one of many responsibilities, it is not clearly delineated as a primary role, nor one on which the annual review is performed. In addition, there is no single manager responsible for the development and maintenance

of the emergency operations plan, the emergency operations center, the coordination and update of related plans (pan flu, COOP/COG and others), or employee training and exercises on the above. Further, there is no one tasked with coordinating with Human Resources, Finance, Information Technology and other elements of the department that are integral functions of emergency management at both the field and department-wide levels.

Placement of a fulltime emergency manager within the Division would be a first step toward recognizing the executive function of emergency management. This person would report directly to the Deputy Director for the Division, and the success of emergency management would be an integral part of the Deputy Director's work plan each year. The emergency manager would in turn coordinate with both the field response oriented personnel currently assigned to emergency management functions within this division, and with all other divisions of the department that have a role in emergency planning/preparedness, response, recovery and mitigation work of the department. This clear chain of command and line of authority would empower the emergency manager to work with personnel from other parts of Caltrans to ensure success in future disaster events.

In addition, a department-wide Emergency Management Committee should be formed to support the work of the emergency manager. This committee would draw members from each of the department's divisions with a role in emergency management, either at the field or in the emergency operations center. Those assigned to the committee would have the assignment included in their annual goals and objectives, and their performance on committee work would be part of their annual review process.

#### **EFFECT ON EXISTING LAW:**

As a state agency Transportation is obliged to comply with Incident Command System (ICS) and National Incident Management System (NIMS). Adoption of this recommendation would result in the creation of a responsible party to oversee compliance with existing law. Such a position is currently lacking, leading to the current situation with gaps in planning and training.

#### **ESTIMATED COST:**

<salary/benefits of the appropriate level manager>

#### **TIME FACTOR:**

The appointment of an emergency manager should be made with the new budget. The emergency manager should review Caltrans' plans and recommend divisions that should be represented on the Emergency Management Committee. The appointment of the Emergency Management Committee should occur within the second quarter of the fiscal year, with division chiefs appointing representatives based on the emergency manager's recommendations.

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**RECOMMENDATION:**

It is recommended that the Director create the position of emergency manager within the Division to oversee existing emergency management staff, and to ensure compliance with ICS/NIMS, and coordination across all department divisions for emergency management work; and appoint a department wide Emergency Management Committee to work with the emergency manager to ensure that emergency management functions are current, compliant and capable.

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Director

Date

Attachment: HSPD-5, (20)

### Homeland Security Presidential Directive/HSPD-5

Release Date: 02/28/03

(20) Beginning in Fiscal Year 2005, Federal departments and agencies shall make adoption of the NIMS a requirement, to the extent permitted by law, for providing Federal preparedness assistance through grants, contracts, or other activities. The Secretary shall develop standards and guidelines for determining whether a State or local entity has adopted the NIMS.



# APPENDIX E: SAMPLE STATE DISASTER SERVICE WORKER BROCHURE

All California cities, counties, or state agencies or public district employees, you may be called upon at a disaster service worker in the event of an emergency. The information contained in this pamphlet will help you understand your role and obligations.

**California Public Employee  
DISASTER  
SERVICE  
WORKERS**  
California Government Code  
Article 2099.1109

**Contra Costa County Office of Education**  
77 Santa Barbara Road  
Pleasant Hill, CA 94523  
925-942-3420

**For more information, please visit the following websites:**


**California Emergency Services Act**  
<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=go&group=08001-09000&file=8550-8551>

**California Government Code 3109-3109.2**  
<https://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=03001-04000&file=3109-3109>

**The California Constitution Oath or Affirmation**  
[https://www.leginfo.ca.gov/cgi-bin/section/article\\_20](https://www.leginfo.ca.gov/cgi-bin/section/article_20)

**Government Office of Emergency Services**  
[https://www.oes.ca.gov/Operations/0551Home.nsf/PDF/LawAndRegulation/CACodePDE/\\$file/Ch2.3\\_0501DSW.pdf](https://www.oes.ca.gov/Operations/0551Home.nsf/PDF/LawAndRegulation/CACodePDE/$file/Ch2.3_0501DSW.pdf)

**Prepared by**

  
WILLIAM WAECHTEL  
County Superintendent of Schools





## Public Employee Disaster Service Worker Status

California Government Code  
Section 3100-3109

*It is hereby declared that the protection of the health and safety and preservation of the lives and property of the people of the state from the effects of natural, man-made, or man-caused emergencies which result in conditions of disaster or extreme peril to life, property, and resources is of paramount state importance... In protection of the citizens and resources, all public employees are hereby declared to be disaster service workers...*

*All disaster service workers shall, before they enter upon the status of their employment, take and subscribe to the oath or affirmation...*

**What does disaster service mean?**

Disaster service means all activities authorized by and carried out pursuant to the California Emergency Services Act\*.

**Who is included in the disaster service worker status?**

All public employees are included in the disaster service worker status which are all persons employed by any county, city, state agency or public district.

**What are the scope of duties of employee disaster service workers?**

Any public employees performing duties as a disaster service worker shall be considered to be acting within the scope of disaster service duties while assisting any unit of the organization or performing any act contributing to the protection of life or property or mitigating the affects of an emergency.

\*California Emergency Services Act  
<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=08001-09000&file=8550-8551>

**How are public employees assigned disaster service activities?**

Public employees are assigned disaster service activities by their superiors or by law in and at the agency in carrying out its responsibilities during times of disaster.

**What is the oath or affirmation referred to in the government code?**

Before entering upon the duties of employment, all public employees take and subscribe to the oath or affirmation set forth in the California Constitution that declares them to be disaster service workers in time of need.

**When do public employees take the oath or affirmation?**

Most public employees sign the oath or affirmation during the hiring process and it is kept with the employee.

**Do public employees acting as disaster service workers get paid?**

Public employees acting as disaster service workers get paid only if they have taken and subscribed to the oath or affirmation.

**Can disaster service workers be sued for actions taken while performing duties?**

Public employee disaster service workers for non-profit organizations and government cannot be held liable for their actions during a disaster while acting within the scope of their responsibilities.

**What if public employees are injured while acting as disaster service workers?**

Claims sustained by public employees while performing disaster services shall be filed as worker compensation claims under the same authorities and guidelines as with all employees within their agency.



For further information, please visit the website listed on the back.

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## APPENDIX F: EMPLOYEE EMERGENCY KIT FLYER

**WATER.** This is your most important item. You will need water to drink, for first aid, and to take medicine. In your kit, have at least one gallon of water per day for at least three days. You could purchase a box of foil packets or cans of water at a camping store for long term storage, or rotate a supply of bottles.

**PRESCRIPTION MEDICATIONS.** This is the second most important item. If you take medications on which your health depends you must carry a five-day supply at all times. This would include medications for heart, blood pressure and diabetic conditions, for example. If you regularly take prescription drugs for allergies or other health concerns, it is also wise to carry these. Keep this supply fresh by rotating it every week. Also include any non-prescription medications you often use: nose drops, antihistamine, allergy remedies, diarrhea medication, or indigestion medications. In times of stress such as an emergency, health problems can become worse. Having proper medications and keeping to the prescribed schedule is very important.

**FOOD.** Food is important for psychological reasons and to maintain your blood sugar level to avoid dizzy or shaky feelings. People with diabetes, heart disease, or other health problems should consult their physicians for advice about the foods for their kits. The healthy general public should select foods like crackers, peanut butter, canned and dried fruit, pudding, granola bars, and single serving juice packs. Plan on four light meals per day. Avoid high sugar foods like candy and soft drinks as they make you very thirsty. Do not drink alcoholic beverages, as they are dehydrating and interfere with safety.

**LIGHT SOURCE.** A chemical light stick provides long shelf life and a sparkless source of light. A flashlight with a special long-life battery or a long-burning candle may be used after you have checked the area to be sure that there is no leaking gas or petroleum in the area. Do not rely on a regular flashlight as ordinary batteries lose their power quickly in the heat of a car. You might consider an electric light with an attachment to your car cigarette lighter, available at camping stores.

**RADIO.** Your car radio is your source for emergency broadcast information. Get a list of all-news stations for the area where you live, work, and areas you drive to or through. Keep this list in your glove compartment and in your emergency kit.

**EMERGENCY BLANKET.** Mylar emergency blankets are available at camping-goods stores. They can be used as a blanket or a heat shield against the sun. They fold into a small package. A thermal blanket may be added when storage space permits.

**FIRST AID SUPPLIES.** Include 4x4 gauze, cloth that can be torn into strips to hold a bandage in place, Kerlex, anti-bacterial ointment (Neosporin, Bacitracin, etc.), burn cream, rolls of gauze, large gauze pads, roll of first aid tape, scissors, a large cloth square for a sling or tourniquet, safety pins, needles and heavy thread, matches, eye wash, and a chemical ice pack. Rotate these supplies every six months.

**PERSONAL CARE AND HYGIENE ITEMS.** Alcohol-based hand sanitizer, small plastic bottle of pine oil or other disinfectant, six large heavy-duty garbage bags with ties for sanitation and waste disposal, box of tissues, roll of toilet paper, plastic bucket to use as a toilet after lining it with a plastic garbage bag.. (Your smaller kit items can be stored in your bucket inside a sealed trash bag).

**ADDITIONAL ITEMS TO INCLUDE.** Sturdy shoes (especially if your work shoes are not good for walking), sweater or jacket, hat/sun visor, sun screen, mouthwash, feminine hygiene supplies, whistle (to attract attention and call for help), rope or string, pencil and tablet, cell phone charger with car adapter, change for a pay phone, safety glasses, work gloves. Consider extra hearing aid batteries and extra eye glasses.

**DON'T LET YOUR GAS TANK FALL BELOW HALF FULL!** The radio and heater in your car may save your life, but you can't run the car's accessories long without the gas to start the engine and re-charge the battery. If you travel in isolated areas, on the freeway, or far from home, an adequate gasoline supply is crucial. Fill up often. After an earthquake the gas pumps may not work for several days while electrical power is restored, and once the pumps work, the supplies will quickly be depleted through panic buying. *NEVER CARRY CANS OF GAS IN YOUR TRUNK!* A can of gas is a bomb!

Revised 1/29/10

National Transportation Security Center of Excellence, 210 N. Fourth St., San Jose, CA 95112



# APPENDIX G: FAMILY EMERGENCY PLAN TEMPLATE

Family Emergency Plan  
Fire • Police • Medical  
Dial 9-1-1

**Places to meet if family members become separated:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Out-of-town relative for relaying messages to family members:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Family Information:**

Father's Work Address/Phone

Mother's Work Address/Phone

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Child's School Address/Phone

School policy is to:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ Hold children  
\_\_\_\_ Release children

Child's School Address/Phone

School policy is to:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ Hold children  
\_\_\_\_ Release children

**Utilities:**

Gas shutoff: \_\_\_\_\_  
Water shutoff: \_\_\_\_\_  
Electric shutoff: \_\_\_\_\_

**Emergency Supplies: (type and location)** \_\_\_\_\_  
\_\_\_\_\_

Doctor: \_\_\_\_\_

Dentist: \_\_\_\_\_

Hospital: \_\_\_\_\_

Ambulance: \_\_\_\_\_

Medical insurance number: \_\_\_\_\_

Nearest Medical Center:

Nearest Fire Station:

\_\_\_\_\_

\_\_\_\_\_

Poison Control Center: 1-800-876-4766



## APPENDIX H: LINES OF SUCCESSION

*Example EOC Section Chief Lines of Succession under NIMS*

<b>Command Management</b>	<b>Planning/ Intelligence</b>	<b>Logistics</b>	<b>Operations</b>	<b>Finance/ Administration</b>
Director	Deputy Director for Planning	Deputy Director for Contracts	Deputy Director for Operations	Deputy Director for Finance
Chief Deputy Director	Senior Manager in Planning	Deputy Director for Human Resources	Deputy Director in Engineering	Senior Manager in Accounting
Senior Staff Member	Manager in Planning	Senior Manager in Contracts	Senior Manager in Operations	Senior Manager in Payroll

*Note:* The rest of the EOC positions need to be similarly designated.



## APPENDIX I: ALTERNATE FACILITIES FOR HEADQUARTERS

	<b>Primary</b>	<b>Alternate</b>	<b>2nd Alternate</b>	<b>3rd Alternate</b>
Headquarters	Headquarters Address & Phone Number	Department Training Facility nearby— Address and Phone Number	Nearby District EOC—Address and Phone Number	District EOC in another part of the state—Address and Phone Number

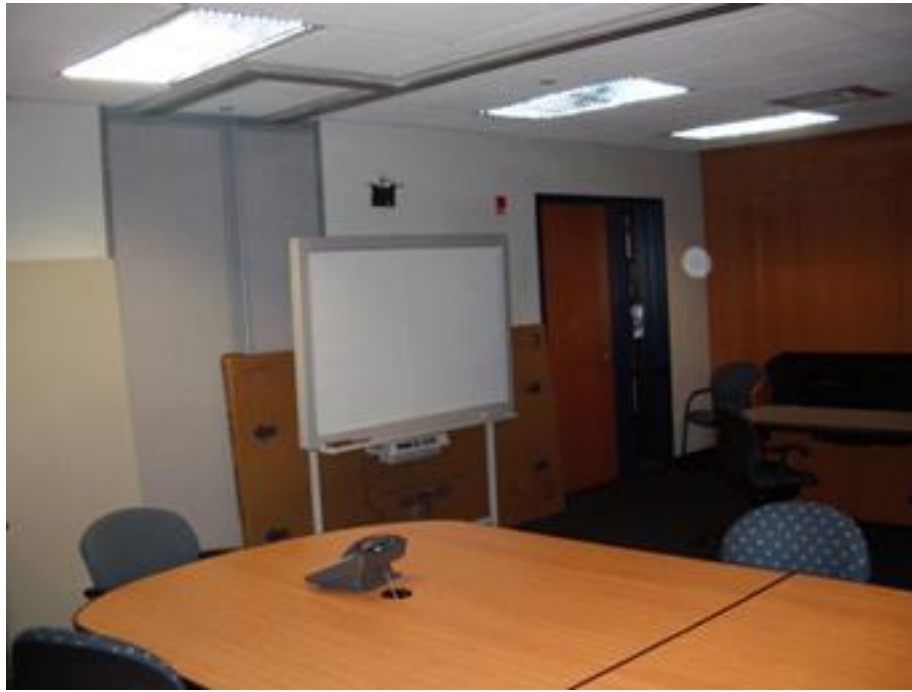
Note: The alternate locations listed have been reviewed for basic alternate facility criteria. The COOP leadership team should conduct a comprehensive review of each facility to identify specific requirements as driven by the essential functions to be conducted and the needs of the essential personnel expected to staff the facility. This will likely include some pre-staging of equipment, materials and appropriate reference materials.

Basic facility requirements include:

- Sufficient space and equipment
- Capability to perform essential functions within 24 hours or sooner, and for up to 30 days
- Reliable logistical support services
- Human needs considerations: safety, health, heating and air conditioning
- Interoperable communications
- Necessary hardware, software and compatible computers

Given the nature and diversity of the threat environment it would be difficult, if not impossible, to identify an alternate facility capable of surviving any threat. The COOP team will exercise discretion in determining which particular facility to activate, and under which threat condition(s).

The specific needs of the COOP team when deployed can best be determined through realistic exercises in which the COOP team is subjected to realistic decision-making scenarios; testing the inflow and outflow of information; the availability of critical reference materials; and needed critical information technology. Exercises will also identify whether or not the team can respond to emergency tasking from within and without the Department and Agency, the state emergency response and recovery community and that of the federal government.



**Figure 18 Montgomery County, Maryland, EOC**

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## APPENDIX J: LIST OF EMERGENCY MANAGEMENT PUBLICATIONS

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DHS COOP Template Instructions

[http://www.fema.gov/doc/government/coop/coop\\_plan\\_template\\_instructions.doc](http://www.fema.gov/doc/government/coop/coop_plan_template_instructions.doc)

FEMA COOP Multi-Year Strategy Template

<http://www.fema.gov/pdf/government/coop/MYSPMPTemplate.pdf>

FEMA COOP Multi-Year Strategy Template Guide

<http://www.fema.gov/pdf/government/coop/MYSPMPTemplateGuide.pdf>

FEMA COOP Multi-Year Strategy Budget

<http://www.fema.gov/xls/government/coop/MYSPMPBudgetAddendum.xls>

FEMA Continuity Evaluation Tool

<http://www.fema.gov/pdf/government/coop/cet.pdf>

FEMA COOP Self-Assessment Tool

<http://www.fema.gov/government/coop/coopassessment3.shtm>

FEMA COOP Vital Records PPT

[http://www.fema.gov/ppt/government/coop/vital\\_records.ppt](http://www.fema.gov/ppt/government/coop/vital_records.ppt)

FEMA/IS 546: COOP Awareness Course

<http://www.training.fema.gov/EMIWeb/IS/is546.asp>

FEMA Training/IS 547: Introduction to COOP

<http://www.training.fema.gov/EMIWeb/IS/is547.asp>

FEMA COG Guidance/CPG 1-10

<http://www.survivalring.org/nbcprep/cpg1-10.pdf>

FEMA Devolution of Operations Plan Template

[http://www.fema.gov/pdf/government/coop/devolution\\_template.pdf](http://www.fema.gov/pdf/government/coop/devolution_template.pdf)

FEMA Pandemic Influenza COOP Annex Template Instructions

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Federal Continuity Directive-1

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Federal Continuity Directive-2

<http://www.fema.gov/pdf/about/offices/fcd2.pdf>



# APPENDIX K: EXCERPTS FROM A SAMPLE STATE EMERGENCY OPERATIONS PLAN

**California Emergency Services Act  
Government Code  
Chapter 7 of Division 1 of Title 2**

**Article 1—Purpose**

**§ 8550. Declaration of purpose and policy**

The state has long recognized its responsibility to mitigate the effects of natural, manmade, or war-caused emergencies which result in conditions of disaster or in extreme peril to life, property, and the resources of the state, and generally to protect the health and safety and preserve the lives and property of the people of the state. To insure that preparations within the state will be adequate to deal with such emergencies, it is hereby found and declared to be necessary:

(a) To confer upon the Governor and upon the chief executives and governing bodies of political subdivisions of this state the emergency powers provided herein; and to provide for state assistance in the organization and maintenance of the emergency programs of such political subdivisions;

(b) To provide for a state agency to be known and referred to as the Office of Emergency Services, within the Governor's office; and to prescribe the powers and duties of the director of that office;

(c) To provide for the assignment of functions to state agencies to be performed during an emergency and for the coordination and direction of the emergency actions of such agencies;

(d) To provide for the rendering of mutual aid by the state government and all its departments and agencies and by the political subdivisions of this state in carrying out the purposes of this chapter;

(e) To authorize the establishment of such organizations and the taking of such actions as are necessary and proper to carry out the provisions of this chapter.

It is further declared to be the purpose of this chapter and the policy of this state that all emergency services functions of this state

**Article 3—Powers of the Governor**

**§ 8570. Power and authority of Governor to mitigate effect of emergency**

The Governor may, in accordance with the State Emergency Plan and programs for the mitigation of the effects of an emergency in this state:

... (c) Use and employ any of the property, services, and resources of the state as necessary to carry out the purposes of this chapter

**Article 7—Other State Agencies**

**§ 8595. Assignment of emergency activities to state agency**

The Governor may assign to a state agency any activity concerned with the mitigation

of the effects of an emergency of a nature related to the existing powers and duties of such agency, including interstate activities, and it shall thereupon become the duty of such agency to undertake and carry out such activity on behalf of the state

**§ 8596. Assistance and cooperation of state agencies and employees; disposal of debris on private property**

(a) Each department, division, bureau, board, commission, officer, and employee of this state shall render all possible assistance to the Governor and to the Director of the Office of Emergency Services in carrying out the provisions of this chapter.

(b) In providing such assistance, state agencies shall cooperate to the fullest possible extent with each other and with political subdivisions, relief agencies, and the American National Red Cross, but nothing contained in this chapter shall be construed to limit or in any way affect the responsibilities of the American National Red Cross under the federal act approved January 5, 1905 (33 Stat. 599), as amended.

(c) State personnel, equipment, and facilities may be used to clear and dispose of debris on private property only after the Governor finds: (1) that such use is for a state purpose; (2) that such use is in the public interest, serving the general welfare of the state; and (3) that such personnel, equipment, and facilities are already in the emergency area.

**Article 11—Mutual Aid**

**§ 8618. Local officials to remain in charge at incident requiring mutual aid**

Unless otherwise expressly provided by the parties, the responsible local official in whose jurisdiction an incident requiring mutual aid has occurred shall remain in charge at such incident, including the direction of personnel and equipment provided him through mutual aid

**Article 13—State of Emergency**

**§ 8628. Utilization and employment of state personnel, equipment and facilities; supplemental services; Expenditures**

During a state of emergency the Governor may direct all agencies of the state government to utilize and employ state personnel, equipment, and facilities for the performance of any and all activities designed to prevent or alleviate actual and threatened damage due to the emergency; and he may direct such agencies to provide supplemental services and equipment to political subdivisions to restore any services which must be restored in order to provide for the health and safety of the citizens of the affected area. Any agency so directed by the Governor may expend any of the moneys which have been appropriated to it in performing such activities, irrespective of the particular purpose for which the money was appropriated.

**California Disaster Assistance Act  
Government Code  
Chapter 7.5 of Division 1 of Title 2**

**§ 8680.7. Director**

“Director” means the Director of the Office of Emergency Services.

**§ 8680.8. State agency**

“State agency” means the Department of Transportation, the Department of Water Resources, the Department of General Services, the Department of Health, the Department of Finance, or other state agency or office including, but not limited to, the University of California. The Department of Transportation’s area of responsibility concerns streets, roads, bridge and mass transit repairs. The Department of Water Resources’ area of responsibility concerns dams, levees, flood control works, channels, irrigation works, and other similar projects. The Department of General Services’ area of responsibility concerns buildings, sewer, water systems, and district road and access facility construction, alteration, repair and improvement thereof, and all other projects. The director shall assign applications to the appropriate agencies for investigation.

**§ 8682. Director; Delegation of powers or duties**

The director shall administer this chapter. The director may delegate any power or duty vested in him under this chapter to a state agency or to any other officer or employee of the Office of Emergency Services.

**§ 8682.2. State agencies to render services and perform duties at request of director**

To the extent that funds are allocated therefore, a state agency, when requested by the director, shall render services and perform duties within its area of responsibility when considered necessary to carry out the purposes of this chapter.

**§ 8682.6. Local agency agreement to hold state harmless from damages**

The project proposal executed between a local agency and the director pursuant to Section 8685.6 shall contain a provision under which the local agency agrees to hold the state harmless from damages due to the work for which funds are allocated.

**Article 5—Office of Emergency Services****§ 8585. State civil defense agency; director of OES; appointment and salary**

There is in the office of the Governor the Office of Emergency Services, which office is the State Civil Defense Agency. The Director of the Office of Emergency Services, who shall also be the State Director of Civil Defense and the State Director of Emergency Planning, shall be in charge of the Office of Emergency Services and shall have all the rights and powers of a head of a department as provided by the Government Code.

The Director of the Office of Emergency Services shall be appointed by the Governor with the consent of the Senate, and shall serve at the pleasure of the Governor. The Governor shall also appoint a Deputy Director of the Office of Emergency Services who shall serve at the pleasure of the Governor. The Director and Deputy Director of the Disaster Office on the effective date of this section shall continue to serve as the Director and Deputy Director, respectively, of the Office of Emergency Services until their successors are appointed and qualified.

The Director of the Office of Emergency Services shall receive an annual salary as provided for by Chapter 6 (commencing with Section 11550) of Part 1 of Division 3 of Title 2 of the Government Code.

**§ 8587. Coordination of emergency activities of state agencies; delegation of powers**

During a state of war emergency, a state of emergency, or a local emergency, the director shall coordinate the emergency activities of all state agencies in connection with such emergency, and every state agency and officer shall cooperate with the director in rendering all possible assistance in carrying out the provisions of this chapter.

In addition to the powers herein designated, the Governor may delegate any of the powers vested in him under this chapter to the Director of the Office of Emergency Services except the power to make, amend, and rescind orders and regulations, and the power to proclaim a state of emergency.

**GOVERNMENT CODE SECTION 8607-8608**

8607. (a) By December 1, 1993, the Office of Emergency Services, in coordination with all interested state agencies with designated response roles in the state emergency plan and interested local emergency management agencies shall jointly establish by regulation a standardized emergency management system for use by all emergency response agencies. The public water systems identified in Section 8607.2 may review and comment on these regulations prior to adoption.

This system shall be applicable, but not limited to, those emergencies or disasters referenced in the state emergency plan. The standardized emergency management system shall include all of the following systems as a framework for responding to and managing emergencies and disasters involving multiple jurisdictions or multiple agency responses:

(1) The Incident Command Systems adapted from the systems originally developed by the FIRESCOPE Program, including those currently in use by state agencies.

(2) The multiagency coordination system as developed by the FIRESCOPE Program.

(3) The mutual aid agreement, as defined in Section 8561, and related mutual aid systems such as those used in law enforcement, fire service, and coroners operations.

(4) The operational area concept, as defined in Section 8559.

(b) Individual agencies' roles and responsibilities agreed upon and contained in existing laws or the state emergency plan are not superseded by this article.

(c) By December 1, 1994, the Office of Emergency Services, in coordination with the State Fire Marshal's Office, the Department of the California Highway Patrol, the Commission on Peace Officer Standards and Training, the Emergency Medical Services Authority, and all other interested state agencies with designated response roles in the state emergency plan, shall jointly develop an approved course of instruction for use in training all emergency response personnel, consisting of the concepts and procedures associated with the standardized emergency management system described in subdivision (a).

(d) By December 1, 1996, all state agencies shall use the standardized emergency management system as adopted pursuant to subdivision (a), to coordinate multiple jurisdiction or multiple agency emergency and disaster operations.

(e) (1) By December 1, 1996, each local agency, in order to be eligible for any funding of response-related costs under disaster assistance programs, shall use the standardized emergency management system as adopted pursuant to subdivision (a) to coordinate multiple jurisdiction or multiple agency operations.

(2) Notwithstanding paragraph (1), local agencies shall be eligible for repair, renovation, or any other nonpersonnel costs resulting from an emergency.



(f) The office shall, in cooperation with involved state and local agencies, complete an after-action report within 120 days after each declared disaster. This report shall review public safety response and disaster recovery activities and shall be made available to all interested public safety and emergency management organizations.

8607.1. (a) It is the intent of the Legislature that a statewide system for fire hydrants be adopted so that all firefighters can respond to emergencies calling for the use of water at any location in the state. Without this statewide standardized system, the lives of firefighters and those they serve would be put in serious jeopardy in a mutual aid fire response effort stretching across city and county boundaries.

(b) By January 1, 1994, the State Fire Marshal shall establish a statewide uniform color coding of fire hydrants. In determining the color coding of fire hydrants, the State Fire Marshal shall consider the national system of coding developed by the National Fire Protection Association as Standard 291 in Chapter 2 on Fire Flow Testing and Marking of Hydrants. The uniform color coding shall not preempt local agencies from adding additional markings.

(c) Compliance with the uniform color coding requirements of subdivision (b) shall be undertaken by each agency that currently maintains fire hydrants throughout the state as part of its ongoing maintenance program for its fire hydrants. Alternatively, an agency may comply with the uniform color coding requirements by installing one or more reflector buttons in a mid-street location directly adjacent to the fire hydrant in the appropriate color that would otherwise be required for the hydrant and a curb marking as near to the hydrant as practicable in that same color.

(d) By July 1, 1994, the State Fire Marshal shall develop and adopt regulations establishing statewide uniform fire hydrant coupling sizes. The regulations adopted pursuant to this section shall include provisions that permit the use of an adapter mounted on the hydrant as a means of achieving uniformity. In determining uniform fire hydrant coupling sizes, the State Fire Marshal shall consider any system developed by the National Fire Protection Association, the National Fire Academy, or the Federal Emergency Management Agency.

(e) By December 1, 1996, each local agency, city, county, city and county, or special district in order to be eligible for any funding of mutual aid fire response related costs under disaster assistance programs, shall comply with regulations adopted pursuant to this section. Compliance may be met if at least one coupling on the hydrant is of the uniform size.

(f) Subdivision (d) shall not be applicable to the City and County of San Francisco due to the existing water system.

8607.2. (a) All public water systems, as defined in subdivision (f) of Section 116275 of the Health and Safety Code, with 10,000 or more service connections shall review and revise their disaster

preparedness plans in conjunction with related agencies, including, but not limited to, local fire departments and the office to ensure that the plans are sufficient to address possible disaster scenarios.

These plans should examine and review pumping station and distribution facility operations during an emergency, water pressure at both pumping stations and hydrants, and whether there is sufficient water reserve levels and alternative emergency power, including, but not limited to, onsite backup generators and portable generators.

(b) All public water systems, as defined in subdivision (f) of Section 116275 of the Health

and Safety Code, with 10,000 or more service connections following a declared state of emergency shall furnish an assessment of their emergency response and recommendations to the Legislature within six months after each disaster, as well as implementing the recommendations in a timely manner.

(c) By December 1, 1996, the Office of Emergency Services shall establish appropriate and insofar as practical, emergency response and recovery plans, including mutual aid plans, in coordination with public water systems, as defined in subdivision (f) of Section 116275

of the Health and Safety Code, with 10,000 or more service connections.

8608. (a) The Office of Emergency Services shall approve and adopt, and incorporate the California Animal Response Emergency System (CARES) program developed under the oversight of the Department of Food and Agriculture into the standardized emergency management system established pursuant to subdivision (a) of Section 8607.

(b) No later than January 31, 2007, the Department of Food and Agriculture shall enter into a memorandum of understanding with the Office of Emergency Services and other interested parties to incorporate the CARES program into their emergency planning.

### **California Disaster and Civil Defense Master Mutual Aid Agreement**

2. Each party agrees to furnish resources and facilities and to render services to each and every other party to this agreement to prevent and combat any type of disaster in accordance with duly adopted mutual aid operational plans, whether heretofore or hereafter adopted, detailing the method and manner by which such resources, facilities, and services are to be made available and furnished, which operational plans may include provisions for training and testing to make such mutual aid effective; provided, however, that no party shall be required to deplete unreasonably its own resources, facilities, and services in furnishing such mutual aid

### **STATE OF CALIFORNIA EMERGENCY PLAN**

*State Agency Tasking* It is the policy of the State of California that all executive branch agencies will provide immediate and efficient response to disasters.

Although agencies should be mindful of the fiscal implications of emergency response actions, life saving response shall not be delayed by concerns for reimbursement or budgetary impacts.

The items listed below are guidelines within which State agency tasking is performed:

- OES State Agency Mission Numbers issued by the SOC and REOCs are valid only for State agencies.
- OAs and State Agencies must request mutual aid assistance from outside their mutual aid region through their OES REOC, or the SOC if unable to contact the REOC.
- OES will analyze and coordinate the request, tasking an appropriate State agency.

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## ENDNOTES

### Executive Summary

1. HSPD-5, February 28, 2003.
2. HSPD-5 (15).

### Introduction

3. Local government agencies must use SEMS if they wish to receive the state's share of the emergency response costs in an event generating a Governor's Declaration of State of Emergency, which is 75% of the non-federal cost share.
4. HSPD-5, February 28, 2003.
5. HSPD-5, (15).
6. HSPD-5 (15).
7. Executive Order S-04-06, <http://gov.ca.gov/index.php?/executive-order/558>.
8. The Caltrans Statement of Work is Appendix A.
9. Golden Guardian exercises are a State of California full-scale exercise program begun in 2004. For more information see [http://www.ohs.ca.gov/pdf/hseep/GG\\_Program\\_Overview\\_11-7.pdf](http://www.ohs.ca.gov/pdf/hseep/GG_Program_Overview_11-7.pdf).
10. In California all departments are organized into agencies. Caltrans is in the Business, Transportation and Housing Agency, which also include the California Highway Patrol, Department of Motor Vehicles, Department of Corporations, and nine other offices and departments.
11. In 2009, the Office of Emergency Services and the Office of Homeland Security were merged to form the California Emergency Management Agency (CalEMA).

### Literature Review

12. FEMA, *Federal Preparedness Circular 65 (FPC 65), Federal Executive Branch Continuity of Operations (COOP)*, July 26, 1999.
13. FEMA, *Federal Preparedness Circular 66 (FPC 66), Test, Training & Exercise (TT&E) Program for Continuity of Operations (COOP)*, April 30, 2001.
14. FEMA, *Federal Preparedness Circular 67 (FPC 67), Acquisition of Alternate Facilities for Continuity of Operations (COOP)*, April 30, 2001.

15. FEMA, *Federal Preparedness Circular 65 (FPC 65), Federal Executive Branch Continuity of Operations (COOP)*, June 15, 2004.
16. Plans and guidelines for plans were reviewed. They are listed in Appendix J: List of Emergency Management Publications under “Continuity of Operations Plans” and “Developmental Guidance.”
17. Disaster Recovery Institute International. *Business Continuity Management for Advanced Professionals*. Conway, AR: DRII, 2006.
18. Department of Homeland Security, *Federal Continuity Directive 1 (FCD1), Federal Executive Branch National Continuity Program and Requirements*. February, 2008.
19. FPC 65, p. 3.
20. FCD 1, p. 2. MEFs are Mission Essential Functions and PMEFs are Primary Mission Essential Functions. Both categories are defined within the national-level COOP and COG, and will be discussed later in “History of Continuity of Operations Plan (COOP)/ Continuity of Government (COG).”
21. FEMA, *Guide For the Development of a State and Local Continuity of Government Capability*, July 27, 1987.
22. Tom Durham and Lacy E. Suiter, “Roles of the State and Federal Governments,” in *Emergency Management*. Washington DC: ICMA (1991): 121.
23. FCD 1, p. 2 NEFs are National Emergency Functions as defined in HSPD-20, which will be discussed later in this section.
24. Presidential Succession Act of 1947, 61 Stat. 380; 3 U.S.C. 19.
25. Stephan .A. Parker, *Continuity of Operations (COOP) Planning Guidelines for Transportation Agencies*, Washington DC: Transportation Research Board, National Academies of Science, 2005.
26. FCD 1, p. 3.
27. Patrick McCloskey, “Business resumption and continuity planning: a smart investment,” *The Emergency Preparedness Digest*. January–March, 2003.
28. Government Accountability Office, *Continuity of Operations: Improved Planning Needed to Ensure Delivery of Essential Government Services*, GAO 01460, Washington DC: GAO, 2004.
29. Office of the Inspector General, *Evaluation of EEOC Field Office Continuity of Operations (COOP) (Final Report)*, OIG Report # 07-12-AMR, March 27, 2008.

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## History of Continuity of Operations Plan (COOP)/Continuity of Government (COG)

30. FCP 1, p. 2.
31. FEMA. *Guide For the Development of a State and Local Continuity of Government Capability*. July 27, 1987.
32. Richard T. Sylves, "Bombing in the Big Apple: What Does It Mean for This Country's Emergency Management?" *PA Times*. April 1, 1993.
33. California Emergency Services Association, Annual Meeting Keynote address, 1996.
34. William R. Cumming and Richard T. Sylves, "FEMA's Place in Policy, Law and Management: A Hazardous Materials Perspective 1979-2003," in William C. Nicholson (ed.), *Homeland Security Law and Policy*, Springfield, IL: Charles C. Thomas Publisher, Ltd. (2005): 39.
35. Frances L. Edwards, "Homeland Security from the Local Perspective," in In William C. Nicholson (ed.), *Homeland Security Law and Policy*, Springfield, IL: Charles C. Thomas Publisher, Ltd. (2005): 120.
36. PDD-NSC-67. Enduring Constitutional Government and Continuity of Government Operations (U), October 21, 1998, <http://www.fas.org/irp/offdocs/pdd/pdd-67.htm>.
37. Cumming and Sylves, p. 40.
38. Richard T. Sylves, "Budgeting for Emergency Management," in William L. Waugh, Jr. and Kathleen Tierney, *Emergency Management*. Washington, DC: ICMA, 2007.
39. As of August 24, 2009 there were 24 Homeland Security Presidential Directives listed at [http://www.dhs.gov/xabout/laws/editorial\\_0607.shtm](http://www.dhs.gov/xabout/laws/editorial_0607.shtm).
40. Frances F. Townsend, *The Federal Response to Hurricane Katrina: Lessons Learned*, Washington DC: The White House, 2006, <http://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned.pdf>.
41. U.S. House of Representatives, *A Failure of Initiative: Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina*, Washington DC: US GPO, February 15, 2006. [www.gpoaccess.gov/congress/index.html](http://www.gpoaccess.gov/congress/index.html).
42. Frances L. Edwards and Frederich Steinhausler, *NATO and Terrorism: On Scene!* Dordrecht, The Netherlands: Springer Publishing, 2007.
43. EO S-04-06, (3).

44. HSPD-20: National Continuity Policy, May 9, 2007, [http://www.dhs.gov/xabout/laws/gc\\_1219245380392.shtm](http://www.dhs.gov/xabout/laws/gc_1219245380392.shtm).

45. FEMA, *Continuity Guidance Circular (CGC 1) Continuity Guidance for Non-Federal Entities*, 2009, p. ii.

### **The Role of the Emergency Services Manager in a State Transportation Agency**

46. The memo recommending changes in the placement and responsibilities of the emergency manager is attached as Appendix D.

47. Quoted in Richard Nixon, “Khrushchev,” *Six Crises*. New York: Doubleday, 1962.

48. Detailed guidance for threat assessments and emergency planning is available through courses offered by the Federal Emergency Management Agency. A model emergency operations plan is available at the CalEMA website <http://www.oes.ca.gov/WebPage/oeswebsite.nsf/Content/977973B5B933C5B18825746E005CEB62?OpenDocument>. While based on local needs it is easily adapted for state level plans.

49. CalEMA, *State of California Multi-Hazard Mitigation Plan*. October, 2007.

50. FEMA, *Developing and Maintaining State, Territorial, Tribal and Local Government Emergency Plans*, March, 2009, [http://www.fema.gov/pdf/about/divisions/npd/cpg\\_101\\_layout.pdf](http://www.fema.gov/pdf/about/divisions/npd/cpg_101_layout.pdf).

51. DHS, Federal Continuity Directive 1. February 2008.

52. For an example of detailed guidance documents and training opportunities see CalEMA, “The California Emergency Management Agency Continuity Planning Program” 2007, <http://www.oes.ca.gov/WebPage/oeswebsite.nsf/Content/E5EB6F0DF18C155C8825740C0081FD9F?OpenDocument>.

53. The NIMS Implementation Matrix for States and Territories is found at [http://www.fema.gov/pdf/emergency/nims/imp\\_mtrx\\_states.pdf](http://www.fema.gov/pdf/emergency/nims/imp_mtrx_states.pdf). FY 2006 NIMS Training Requirements is found at [http://www.fema.gov/pdf/nims/06\\_training.pdf](http://www.fema.gov/pdf/nims/06_training.pdf).

54. Disaster Service Worker role is described in California Government Code 3100-3109, <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=03001-04000&file=3100-3109>.

55. Family preparedness resources are at <http://www.fema.gov/plan/index.shtm>.

56. California’s “Bear Responsibility” site is <http://www.calema.ca.gov/WebPage/oeswebsite.nsf/Content/42B416238228CDEA8825742F0072DF84?OpenDocument>.

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57. For a detailed description of the work of HSEEP and their exercise guidance see FEMA Homeland Security Exercises Evaluation Program, at [https://hseep.dhs.gov/pages/1001\\_HSEEP7.aspx](https://hseep.dhs.gov/pages/1001_HSEEP7.aspx).
58. For a complete description of the role of the EOC in emergency response see Richard A. Rotanz, "Applied response strategies," in Waugh and Tierney, (2007), *Emergency Management*, ICMA, p. 148-157. Note that this New York-based description is not NIMS compliant.
59. For a complete guide to EOC establishment and management see the FEMA Independent Study Course, "IS-775: EOC Management and Operations." Available at <http://training.fema.gov/EMIWeb/IS/IS775.asp>.
60. See Appendix H for a draft of an EOC/Department Line of Succession matrix.
61. Standard Operating Procedures are developed to guide field level response to emergencies. They are discussed in "The Hierarchy of Emergency Plans."
62. Brian M. Jenkins and Frances L. Edwards-Winslow, *Saving City Lifelines*, San José, CA: Mineta Transportation Institute, 2003, <http://www.transweb.sjsu.edu/MTIportal/research/publications/summary/0206.htm>.
63. For a complete set of EOC section descriptions and checklists see Frances L. Edwards and Daniel C. Goodrich, *The Role of Transportation in Campus Emergency Planning*, San José, CA: Mineta Transportation Institute, 2009, <http://www.transweb.sjsu.edu/MTIportal/research/publications/summary/MTI-0806.html>.
64. U.S. Department of Transportation, Federal Highway Administration, "Special Federal-Aid Funding: Emergency Relief Program," <http://www.fhwa.dot.gov/programadmin/erelief.cfm>.
65. U.S. Department of Transportation, Federal Highway Administration, *Emergency Relief Manual (Federal-Aid Highways)*. August 2003.
66. The *Guide* is located at <http://www.fhwa.dot.gov/specialfunding/er/guide.cfm>.
67. "EOC Finance & Administration and Disaster Cost Recovery Training" has been sponsored by the California Emergency Services Association, for example.
68. For example, see CalEMA, (2007), *State of California Multi-Hazard Mitigation Plan*. October.
69. *Ibid.*, Executive Summary.
70. *Ibid.*, p. 352–357.

71. *Ibid.*, p. 357.

### **The Role of the Department of Transportation Headquarters EOC**

72. John T. Reed, “Put C.C. Myers or someone like him in charge of Iraq,” <http://www.johntreed.com/CCMyers.htm>, accessed on December 27, 2009.

73. Office of the Governor, “Governor Schwarzenegger Announces Reopening of MacArthur Maze,” <http://gov.ca.gov/index.php?/press-release/6394/>.

74. “Contraflow” is the use of highway lanes for travel in the opposite direction, usually to facilitate rapid evacuation of a threatened area. For example, contraflow was used in 2005 in Louisiana to evacuate people from New Orleans and coastal areas ahead of Hurricane Katrina.

75. In his keynote address at the Natural Hazards Conference in Broomfield, Colorado on July 15, 2009, Craig Fugate emphasized that the local jurisdiction remains in charge of the disaster, and that state and federal assets are available to assist in fulfilling their priorities.

76. Although traditional ICS may not acknowledge the role of transportation in the Operations Section, many large cities, such as San Francisco and San José, have long placed a transportation unit within the Operations Section. For a complete discussion of this strategy see Edwards and Goodrich, *The Role of Transportation in Campus Emergency Planning*.

77. Governor’s Budget Speech, July 29, 2009, KLIV radio; and Julie Lin, AP News, “Schwarzenegger Signs Budget with more welfare cuts,” July 28, 2009.

78. Office of the Governor, “Fact Sheet: The Budget Solution,” July 24, 2009, <http://gov.ca.gov/index.php?/fact-sheet/12885/>.

79. See Tables 1 and 2 for the cost share of disaster response and recovery work.

### **The Hierarchy of Emergency Plans**

80. FHWA, *Simplified Guide to the Incident Command System for Transportation Professionals*. February, 2006. Provides a comprehensive overview of ICS as used in transportation entities.

81. For a complete set of model EOP annexes see Edwards and Goodrich, *The Role of Transportation in Campus Emergency Planning*, <http://www.transweb.sjsu.edu/MTIportal/research/publications/summary/MTI-0806.html>.

82. For an example of an Emergency Operations Plan with a number of event specific annexes see the City of San José, California plan at <http://www.sanjoseca.gov/emergencyServices/eopannex.asp>.



83. For a detailed explanation of PMEFs and MEFs, see Federal Continuity Directive-1, <http://www.fema.gov/pdf/about/offices/fcd1.pdf>, and Federal Continuity Directive-2, <http://www.fema.gov/pdf/about/offices/fcd2.pdf>.

84. The National Response Framework can be found at <http://www.fema.gov/emergency/nrf>. COG development guidance can be found in FEMA 1987 COG Guidance/CPG 1-10, <http://www.survivalring.org/nbcprep/cpg1-10.pdf>.

### **Additional Activities to Lead to a Fully Mature Emergency Management Program**

85. HSPD-5 relevant portions are found at the end of the model memo in Appendix D.



## ABBREVIATIONS, ACRONYMS AND GLOSSARY

ARC	American Red Cross
DEOC	Department Emergency Operations Center
EMA	Emergency Management Agency
EOC	Emergency Operation Center
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
MEF	Mission Essential Functions
NIMS	National Incident Management System
OES	Office of Emergency Services
PEMF	Primary Mission Essential Functions
PIO	Public Information Officer
REOC	Regional Emergency Operations Center
SEMS	Standardized Emergency Management System
SOC	State Operations Center (state-level EOC)

**Action Planning:** meetings held in the emergency operations center (EOC) with the Management Section Chief and the EOC Operations, Planning, Logistics and Finance Section Chiefs, that result in an exchange of information and the establishment of goals and objectives for the jurisdiction for the next operational period.

**Action Plans:** written plans created from the Action Planning meetings that include goals and objectives, operational period, maps, organization chart and any auxiliary plans to be used during the covered operational period.

**Incident Action Planning:** meetings held in the field at the Incident Command Post with the Incident Commander and the field-level Operations, Planning, Logistics and Finance Section Chiefs, that result in an exchange of information and the establishment of goals and objectives for the incident for the next operational period. The resulting Incident Action Plan not only guides field actions but is also sent to the EOC, where it helps to create the jurisdiction-wide goals.

**Incident Plans:** the plan for the field level responders for the next operational period that includes the goals and objectives, operational period, maps, organization chart and any auxiliary plans to be used during the covered operational period at that incident, which may be written or documented on a board or through orders.

**Rolling Stock:** wheeled vehicles, especially transit assets, trucks and other heavy equipment.



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## ABOUT THE AUTHORS

### FRANCES L. EDWARDS, MUP, PhD, CEM

Frances L. Edwards, PhD, CEM, is the director of the Master of Public Administration program and professor of political science at San José State University. She is also a research associate of the Mineta Transportation Institute at SJSU, and teaches emergency management in the Master of Transportation Management program. In 2009 she was appointed U.S. chair for the European Union CAST Project for the development of unified training for first responders. Her most recent research has been in global supply chain security, resulting in a chapter co-authored with Dan Goodrich, "Supply Chain Security and the Need for Continuous Assessment," to be published in *Supply Chain Security: International Innovations and Practices for Moving Goods Safely and Efficiently* by Praeger. In 2009 she delivered papers at the Department of Homeland Security Center of Excellence conference on MTI's research agenda, and at the American Society for Public Administration on "Legacy of Hurricane Katrina: The Challenges of International Goodwill." In 2008 she delivered papers at the American Society for Public Administration on the financial impacts of Hurricane Katrina, and at the Stevenson Disaster Institute at Louisiana State University on cross border issues in disaster response. Her paper was published in 2009 in the *Journal of Contingency and Crisis Management*. In June 2007 she was a guest of the Turkish government at the Second Istanbul Conference on Democracy and Global Security where she delivered a paper titled "Police in Catastrophic Response: Lessons Learned from Hurricane Katrina." She also presented a paper at the American Society for Public Administration (ASPA) on "Collaborative Leadership in Dynamic Environments of Disasters and Crises: Collaboration at the Local Level," and she received the Petak Award for the best paper in emergency management delivered at the 2006 conference.

Dr. Edwards was a 2006 Fellow of the Foundation for Defense of Democracies, and spent part of June 2006 in Israel at Tel Aviv University studying Middle Eastern terrorism. She chaired the 2006 NATO STS-CNAD meeting for 20 nations in Portugal, and presented a paper there on the evolution of American emergency management. The book, *NATO and Terrorism: On Scene! Emergency Management after a Major Terror Attack*, co-authored with Professor Friedrich Steinhausler of Salzburg University, grew out of the March 2006 NATO workshop. She was guest editor for the Winter 2007, Winter 2008 and Winter 2009 editions of *The Public Manager*, in which she published articles on Hurricane Katrina. Her most recent articles include, "Federal Intervention in Local Emergency Planning: Nightmare on Main Street," in the Spring 2007 issue of *State and Local Government Review*, and "An Ounce of Prevention Is Worth a Pound of Cure: Improving Communication to Reduce Mortality During Bioterrorism Responses," with Margaret L. Brandeau and other colleagues from Stanford University, in *American Journal of Disaster Medicine*, March/April 2008.

Previously, Dr. Edwards was director of the Office of Emergency Services in San José, California for 14 years, including one year as acting assistant chief, San José Fire Department. She was director of San Jose's Metropolitan Medical Task Force (MMTF), a CBRNE terrorism response unit, and head of the four-county "San José Urban Area Security Initiative." In 2004 she co-chaired the NATO Advanced Research Workshop in Germany where she delivered a paper on research needs to support first responders

to CBRNE terrorism. In October 2001, while Dr. Edwards was director of the Office of Emergency Services, the *Wall Street Journal* called San José the “best prepared city in the United States” for disasters. She represented emergency management on the five night “Bio-War” series on ABC’s “Nightline with Ted Koppel” in October 1999. She has been a member of the Stanford University Working Group on Chemical and Biological Warfare, the Department of Justice’s Executive Session on Domestic Preparedness at the Kennedy School of Government at Harvard University, the National Academy of Sciences Institute of Medicine MMRS Review Committee, and the California Seismic Safety Commission.

Dr. Edward’s publications include *Mercury News* op-eds on homeland security, *NATO and Terrorism: Catastrophic Terrorism and First Responders* with Dr. Steinhausler, *Saving City Lifelines* with Brian Jenkins, and chapters in ICMA’s *Emergency Management, Homeland Security Law and Policy, First to Arrive, Handbook of Crisis and Disaster Management, The New Terror*; entries in *WMD Encyclopedia*, over 25 articles in journals, and professional papers at more than 35 conferences. She was named Public Official of the Year 2002 by *Governing Magazine*, and one of the “Power 100 of Silicon Valley” by *San José Magazine*.

She has a PhD in public administration, a Master of Urban Planning, an MA in Political Science (International Relations) and a Certificate in Hazardous Materials Management.

### **DANIEL C. GOODRICH, MPA, CEM**

Daniel C. Goodrich, MPA, CEM is an emergency preparedness coordinator for Lockheed Martin Corporation. He is an instructor and research associate for the Mineta Transportation Institute at the San José State University’s College of Business, where he also teaches Security for Transportation Managers. He was selected as a 2006 Fellow of the Foundation for Defense of Democracies, and spent part of June 2006 in Israel at Tel Aviv University studying Muslim terrorism. He has been an active member of the San José Metropolitan Medical Task Force, a CBRNE response unit, since 1999, where he has served as exercise director for eight facilitated exercises, a model of exercise that he developed. Harvard University’s Kennedy School of Government has selected the creation of this exercise style for a case study in its executive management series. His most recent publication is a chapter, “Supply Chain Security and the Need for Continuous Assessment,” to be published in *Supply Chain Security: International Innovations and Practices for Moving Goods Safely and Efficiently* by Praeger in 2010, and “Improvised Explosive Devices,” in *Handbook of Emergency and Crisis Management*, to be published by Marcel Dekker in 2010, both co-authored with Dr. Frances L. Edwards. He delivered a paper on maritime security at the American Society for Public Administration in 2007, and on Fourth Generation Warfare at the 2006 NATO STS-CNAD meeting for 20 nations in Portugal, which was adopted as an annex for *NATO and Terrorism: On Scene!*, the book developed from the workshop by Dr. Edwards and Dr. Friedrich Steinhausler, published by Springer in 2007. In 2004 he chaired a session on “First Responders” at the NATO Advanced Research Workshop in Germany that focused on the research needs to support first responders to CBRNE terrorism. Mr. Goodrich serves as a consultant to the California Department of Transportation, and has provided training services for NASA/Ames Research Center staff in emergency

management. He has delivered professional papers at eight conferences, and with Dr. Edwards he has co-authored a chapter, "Organizing for Emergency Management" in the ICMA textbook *Emergency Management*, and has 3 entries on nuclear topics in *The WMD Encyclopedia*.

Mr. Goodrich served in the United States Marine Corps for ten years, including leadership positions in Security Forces. He is distinguished with both rifle and pistol, and a member of the President's Hundred. He also served for six years in the Army Reserve Military Police as a small arms instructor and a member of the U.S. Army Reserve shooting team. He was recalled to active duty in 2003 to train reservists being deployed to Iraq and Iraqi civilian officials.

Mr. Goodrich has a Master of Public Administration degree from San José State University and is a Certified Emergency Manager.



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