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POSTGRADUATE  
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**MONTEREY, CALIFORNIA**

**THESIS**

**A COMPILATION OF NECESSARY ELEMENTS  
FOR A LOCAL GOVERNMENT  
CONTINUITY OF OPERATIONS PLAN**

by

Kevin M. Cashen

September 2006

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**A COMPILATION OF NECESSARY ELEMENTS FOR A LOCAL  
GOVERNMENT CONTINUITY OF OPERATIONS PLAN**

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**MASTER OF ARTS IN SECURITY STUDIES  
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## **ABSTRACT**

National and state homeland security strategies call for continuity of operations plan development. The 2006 Nationwide Plan Review Phase II Report identifies continuity of operations plan development as a state and local goal with a federal goal of providing continuity of operations plan development support. Most local governments do not have a continuity of operation plan or it needs to be updated. Continuity of operations plan guidance is provided by a variety of international, federal, state and local documents. Common, unique and best practice elements are identified and should be contained in a continuity of operations plan. An identified compilation of continuity of operation elements is presented. Planning templates are good for COOP document structure and should contain the compilation of COOP elements, recommended template is offered. Local government continuity of operations plan developers must independently develop and “own” their continuity of operations plan based on the compilation COOP elements. An after action-report is a necessary component for continuity of operations plan maintenance and can be used for continuity of operations plan research. Academia must pursue continuity of operations plan research to qualitatively and quantitatively identify effective continuity of operations plans and their respective elements. With the advent of homeland security as an academic pursuit, research opportunity exists and should be supported by the federal government because of the critical nature of an effective COOP for local government in ensuring the continuity of essential functions during and after an event.



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## **LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS**

AAR	After-Action Report
CBRNE	Chemical, Biological, Radiological, Nuclear, or Explosive
COG	Continuity of Government
CONOPS	Concept of Operations
COOP	Continuity of Operations
DHS	Department of Homeland Security
DOT	Department of Transportation
EMAC	Emergency Management Assistance Compact
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
HSPD	Homeland Security Presidential Directive
ICS	Incident Command System
LLIS	Lessons Learned Information System
MAA	Mutual Aid Agreement
NFPA	National Fire Protection Association
NIMS	National Incident Management System
SLG	State and Local Guide
SOP	Standard Operating Procedure

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## EXECUTIVE SUMMARY

A continuity of operations plan (COOP) facilitates the performance of essential functions during an emergency situation that disrupts normal operations, and it provides for the resumption of normal operations once the emergency has ended. National and state homeland security strategies call for COOP development. The 2006 Nationwide Plan Review Phase 2 Report identifies COOP development as a state and local goal with a federal goal of providing COOP development support.<sup>1</sup> Currently, COOP guidance is provided in a variety of international, federal, state and local documents. Common, unique and best practice COOP elements are identified through a literature review. A compilation of COOP elements are identified. The development of a local government continuity of operations plan should build upon the identified compilation of COOP elements. A COOP template is recommended and provides structure and format for the identified compilation of COOP elements. By incorporating the same identified COOP elements, continuity of operation plans would be similar and fuse with other local continuity of operation plans within the state or region. This thesis identifies the following elements for the development of a continuity of operations plan:

- Purpose/Objective;
- Continuity of Government
- Applicability and Scope;
- Authorities and References;
- COOP Implementation Plan (mitigation, preparedness, activation, devolution, response, recovery/reconstitution);
- Classification of Emergencies and COOP Responses;
- Delegation of Authority to Key Personnel;
- Orders of Succession for Key Personnel;
- Incident Command System;
- Identification of Essential Functions and Critical Services;
- Alternate Operating Locations and Facilities, to include drive-away kits;

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<sup>1</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report* (Washington, D.C.: Government Printing Office, 2006), 13-14.

- Interoperable Communications;
- Vital Records, Databases, and Systems;
- Financial Management;
- Security Measures for Personnel, Records and Alternate Facilities or Protection of Government Resources;
- Staff/Dependent Care Plans to Include Personal Preparedness Transportation, Lodging and Food;
- Photographs, Charts, Roster and Maps;
- Tests, Training, and Exercise;
- Plan Management/Maintenance to Include After-Action Reports.

This compilation of COOP elements can become part of the 2006 Nationwide Plan Review Phase 2 Report federal government’s desired outcome for Goal #24: “creation of a performance management framework that tracks performance against standard capabilities and tasks as reflected in synchronized plans across levels of government to include continuity of operations and government as a priority performance measure.”<sup>2</sup>

An after action-report of COOP activation is a necessary component for COOP maintenance and can be used for COOP research. COOP development and academic research regarding the effectiveness for existing plans is non-existent. COOP guidance is being driven by government documents and lessons learned from government after-action reports. Independent research and review is necessary to strengthen government’s direction in COOP development. Note that COOP guidance documents are relatively recent, circa 2002-2006. Academia must pursue COOP research too qualitatively and quantitatively, dependent on the appropriate research method as determined by the researcher, identify effective COOPs and their respective elements.

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<sup>2</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 78.

# I. A COMPILATION OF NECESSARY ELEMENTS FOR A LOCAL GOVERNMENT CONTINUITY OF OPERATIONS PLAN

*It is a bad plan that admits of no modification.*

*Publilius Syrus*

*(~100 BC)<sup>3</sup>*

## A. PROBLEM STATEMENT

National and state homeland security strategic plans call for local involvement. Many state homeland security strategic plans call for the continuity of government operations, including local government. A continuity of operations plan (COOP) facilitates the performance of essential functions during an emergency situation that disrupts normal operations, and it provides for the resumption of normal operations once the emergency has ended. National and state homeland security strategies call for COOP development. Most local governments do not have a continuity of operation plan or it needs to be updated.

On June 16, 2006 the U.S. Department of Homeland Security in cooperation with the U.S. Department of Transportation released the Nationwide Plan Review Phase 2 Report. The report advised that most emergency operation plans do not reflect sufficient COOP or COG planning.<sup>4</sup> A desired outcome for the federal government in the Nationwide Plan Review Phase 2 Report is the creation of a performance management framework that tracks performance against standard capabilities and tasks as reflected in synchronized plans across levels of government. Continuity of operations and government should be included as a priority performance measure.<sup>5</sup>

It is important to note continuity of operations planning rose to prominence after the terrorist attacks of September 11, 2001. The early COOP guidance documents were available in 2002. Since 2002, the available COOP guidance documents have built off of

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<sup>3</sup> Publilius Syrus, "Quotation #24383 Classic Quotes," *The Quotations Page*, ~100 BC, <http://www.quotationspage.com/quote/24383.html>. (accessed July 10, 2006).

<sup>4</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 11.

<sup>5</sup> *Ibid*, 78.

each other and COOP elements have been added by various federal, state and local jurisdictions. Since four years have passed, it is time for these documents to be reviewed and updated, to include a comprehensive compilation of COOP elements.

A COOP must be written and available for all government jurisdictions. Further, a compilation of COOP elements should be applied by local government officials in COOP development.

#### **B. RESEARCH QUESTION**

What are the necessary elements of a COOP for local government? By identifying these COOP elements from different international, federal, state and the limited existing local COOPs guidance documents, a compilation of COOP elements can be used to develop a local COOP thereby producing similar plans that can be activated for single or multi jurisdictional all hazard events?

#### **C. METHODOLOGY**

A close review of seventeen international, federal, state and local COOP guidance documents will be conducted to identify a compilation of COOP elements. All documents reviewed will be circa 2002-2005. International, federal, state and local elements will be listed and collated. The identified compilation of COOP elements can then be used to develop a local government COOP. The identified compilation of COOP elements will be a policy recommendation to federal, state and local government for COOP development.

#### **D. COMPILATION OF COOP ELEMENTS VERSUS A COOP TEMPLATE**

This thesis delineates a difference between a COOP element compilation, and a COOP template. The compilation identifies the necessary COOP elements that should be included in a local COOP. A COOP template is utilizing the elements in a suggested structure and format given to the COOP. The identified compilation of COOP elements can be placed in a variety of ways or order in COOP templates. Templates can vary in document structure and format from federal, state and local government however the identified compilation of COOP elements should be contained in all COOP templates and not vary. The compilation of COOP elements should be applied locally. The author also believes the compilation could be utilized by federal and state government as well. Quite

simply, the identified COOP elements are what should be in the COOP template which provides the document structure and format to the COOP.

**E. COMMON, UNIQUE AND BEST PRACTICE COOP ELEMENTS**

Common COOP elements will be those elements consistently found throughout the seventeen COOP guidance documents and templates. Using the same seventeen documents and templates, elements contained in an individual or a few of the documents will be considered unique. In addition, Lessons Learned Information Sharing (LLIS) has distinguished a best practice of COOP elements. The LLIS best practice will be compared against the common and unique COOP elements. The common, unique and best practice COOP elements will drive the identified compilation of COOP elements for policy recommendation.

**F. SIGNIFICANCE OF RESEARCH**

The development of a local government continuity of operations plan should build upon a compilation of COOP elements. By identifying necessary and common components from the comparison of multiple international, federal, state and limited local guidelines, a common flavor can be incorporated into COOP development. The identified compilation of COOP elements can be developed in developing a COOP for local jurisdictions. By incorporating the same identified compilation of COOP elements, continuity of operation plans would be similar and fuse with other local continuity of operation plans within the state or region. As a result, part of the federal government's desired outcome set forth in the Nationwide Plan Review Phase 2 Report can be met.



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## **II. THE CURRENT STATE OF COOP DEVELOPMENT FOR LOCAL JURISDICTIONS**

### **A. THE NATIONWIDE PLAN REVIEW PHASE 2 REPORT**

On June 16, 2006, the U.S. Department of Homeland Security in cooperation with the U.S. Department of Transportation released the Nationwide Plan Review Phase 2 Report. The report advised that most emergency operation plans do not reflect sufficient COOP or COG planning.

The results of Basic Plan reviews reveal several areas of concern. A significant number of States (59%) and urban areas (65%) do not have a concept of operations in place that is judged to be sufficient for a catastrophic event. Formal plans that describe the general sequence of actions, supported by checklists that describe detailed actions for different threats and hazards, are vital in catastrophic incidents when multi-agency coordination reaches national proportions. The impact of this area of concern is magnified when the lack of sufficient continuity of operations/continuity of government plans (COOP/COG) is considered. Longstanding planning guidance, such as FEMA's State and Local Guide (SLG) 101: Guide for All-Hazard Emergency Operations Planning and voluntary standards (such as the National Fire Protection Association (NFPA) 1600 Standard on Disaster/Emergency Management and Business Continuity, explicitly identifies requirements for continuity measures to maintain operations in the face of disruptions of service, damage to the environment in which operations occur, or loss of critical services.<sup>6</sup>

While more States than urban areas (41% versus 27%) have sufficient COOP/COG plans, disruption of incident management and emergency services is still a concern in those states and urban areas that were rated Partially Sufficient or Not Sufficient and are currently working on updating, publishing, training, and exercising to address critical aspects of COOP/COG planning. Critical aspects of updated COOP/COG plans should include clear lines of succession for key management positions; protection of essential records, facilities, equipment, and personnel; operation of alternate facilities; and functioning of emergency communications. Planning assumptions in Basic Plans

<sup>6</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 13-14.

vary widely across state and urban area plans. With the exception of hurricane-prone states and urban areas, planning assumptions reflect a consistent trend of discounting the likelihood of catastrophic event. Plans and exercises often reflect a narrow perception of risk and are usually scaled to familiar events instead of the “breaking point” conditions associated with catastrophic incidents.<sup>7</sup>

The Nationwide Plan Review Phase 2 Report delineated areas of strength and weakness. Areas of strength are: the majority of participants are in the process of strengthening continuity plans, most jurisdictions have adequately referenced legal authorities in the Basic Plan, most Review participants have identified their most significant threats and hazards and their plans follow all-hazards planning principles.<sup>8</sup> “The areas of weakness are: existing Federal guidance is outdated and provides unclear direction in regards to improving Basic Plans, most EOPs do not reflect Sufficient COOP or COG planning, most EOPs have been exercised or used in actual emergencies but few address the impact of a catastrophic incident, many Review participants lack a formalized corrective action and improvement process, although relevant legal authorities are referenced in Basic Plans, some aspects of mutual aid agreements are unclear (for example, arrest powers are not well-defined for law enforcement officers responding to a mutual aid request), for states and territories on the nation’s borders mutual aid agreements with foreign entities need to be coordinated more thoroughly with the Federal Government, with the exception of states and urban areas vulnerable to hurricanes most Review participants do not consider catastrophic incidents a likely occurrence.”<sup>9</sup>

All organizations tasked in a Basic Plan should ensure that lines of succession for key management positions are established; essential records, facilities, and equipment are protected; where possible, alternate operating locations are available; emergency response staff is protected; and functioning of emergency communications is assured.<sup>10</sup> The Initial Conclusions For the Federal Government In Ongoing and Near-Term Efforts lists performance management frameworks to support the National Preparedness Goal

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<sup>7</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 13-14.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid, 64.

should measure the ability to: integrate a multi-jurisdictional and multi-agency response based on the intersection of tasks and capabilities in combined plans; and maintain operations in the face of disruptions of service damage to the environment in which operations occur or loss of critical resources.<sup>11</sup> Continuity of operations and government was observed to be general weaknesses. A desired outcome is the creation of a performance management framework that tracks performance against standard capabilities and tasks as reflected in synchronized plans across levels of government, continuity of operations and government should be included as a priority performance measure.<sup>12</sup>

**B. WHY A LOCAL COOP IS NECESSARY—THE NEW ORLEANS POLICE DEPARTMENT EXAMPLE**

The New Orleans Police Department serves as an example of why a known effective COOP is necessary. In the summer of 2005 the United States Gulf Coast was hit by Hurricane Katrina. New Orleans was dramatically impacted by Katrina. The New Orleans Police Department had not taken basic steps to protect its resources and ensure continuity of operations.<sup>13</sup> For example, communications nodes, evidence rooms, and even emergency generators were housed in lower floors susceptible to flooding. When the levees broke and the floodwaters overtook police headquarters and district offices, the department lost its command and control and communications functions. Police vehicles believed to be moved out of harm's way were lost to the floodwaters. Hundreds of New Orleans Police Department officers went missing — some for legitimate reasons and some not — at a time they were needed most. This left the city unable to provide enough personnel and other resources to maintain law and order at shelters and on the streets. There was no unified command or clear priorities within the department.<sup>14</sup> Even when police were present to restore law and order, they did not have the resources to arrest, book, and detain suspects.<sup>15</sup>

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<sup>11</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 78.

<sup>12</sup> *Ibid.*

<sup>13</sup> U.S. House of Representatives, *A Failure of Initiative: Final Report of the Select Bipartisan Committee to Investigate the Preparation for and the Response to Hurricane Katrina* (Washington, D.C.: U.S. Government Printing Office, 2006), 256.

<sup>14</sup> *Ibid.*, 241.

<sup>15</sup> *Ibid.*, 246.

Despite the well-known threat from flooding, the New Orleans Police Department had not taken some basic steps to protect its resources and ensure continuity of operations.<sup>16</sup> In 2004, the police department reportedly produced an “elaborate hurricane plan” which was issued to all commanders.<sup>17</sup> But, according to a reporter who was present during Katrina and reviewed police operations, it “stayed on their bookshelves,” and the department never ran “exercises to familiarize officers with the plan.” Few officers the reporter spoke with even knew the plan existed.<sup>18</sup> This information was presented to the U.S. House of Representatives in *A Failure of Initiative: Final Report of the Select Bipartisan Committee to Investigate the Preparation for and the Response to Hurricane Katrina*.

### **C. A LOCAL EFFECTIVE COOP — THE VOLUSIA COUNTY, FLORIDA**

Florida is noted for its hurricane season. Because of this natural event, Florida has become well versed and exercised in COOP. 2004 was a hurricane season for the record books, with four hurricanes striking Florida, three of which significantly impacted Volusia County and its municipalities.<sup>19</sup> Hurricanes Charlie, Frances and Jeanne each necessitated the full emergency response and disaster recovery operations from the local jurisdictions. Overall, the three hurricanes of 2004 were a remarkable and unprecedented opportunity for Volusia County and its municipalities to measure the effectiveness of their response and recovery efforts, and their ability to work together as a team. The Volusia County 2004 Hurricane Season After-action Report showed that an interesting aspect reported by nearly everyone interviewed for the evaluation was that effectiveness and efficiency of emergency operations improved with each storm.<sup>20</sup>

The Volusia County after action report identified a number of lessons learned or areas of improvement directly related to their local COOP, they were:

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<sup>16</sup> U.S. House of Representatives, *Failure of Initiative*, 245.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Volusia County, Florida, *2004 Hurricane Season "After Action Report" Lessons Learned Regarding Improved County and Municipal Hurricane Emergency Preparedness* (Princeton, NJ: Emergency Response Planning & Management, Inc, 2005), 2.

<sup>20</sup> Ibid, 3.

- Expand Continuity of Operations Planning (COOP) - For several jurisdictions and organizations, the 2004 hurricane season was a challenge to maintain operations in spite of post-impact conditions, and specifically the protracted loss of power and telephone communications. In some cases, a COOP-type response had to be implemented “on the spot,” and many organizations would have benefited if a COOP had been in place.
- Define COOP priority needs on a countywide basis - Given the number of jurisdictions and organizations in the county, an expanded COOP program would require significant time, effort, and resources. Therefore, it would be desirable to prioritize the effort, allowing it to be extended over several years, by using a consistent approach to identify COOP planning needs.
- Provide a COOP planning educational/training program - While the State of Florida is currently offering grant funding for local government COOP planning, it is not likely to be adequate to address all of the priority needed identified. It would be beneficial to provide education/training to municipal officials that would allow them to develop COOPS independently, while nevertheless using a format and approach that would result in consistent operational concepts on a countywide basis.

Evaluate current COOP’s regarding power and communications loss - The 2004 season indicated that protracted power and communications losses could be formidable challenges to agency and jurisdiction operations. The COOP’s that have been and are being prepared should be specifically evaluated, and modified if indicated, regarding these vulnerabilities.<sup>21</sup>

#### **D. THE NEW YORK EXPERIENCE WITH AND WITHOUT A COOP**

The importance of COOP planning is illustrated by the City of New York’s experience following the terrorist attack on the World Trade Center on September 11, 2001—an incident that severely tested the city’s ability to continue providing essential

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<sup>21</sup> Volusia County, Florida, *2004 Hurricane Season*, 6.

services and respond to the disaster that had befallen it. At the time of the attack New York City did not have a COOP plan.<sup>22</sup>

The city's new Emergency Operations Center located at No. 7 World Trade Center was destroyed when the building collapsed on the afternoon of the attack. In addition, disruption of utilities and telecommunications capabilities rendered the City Hall and the city's Federal Center unusable. The city government and the local offices of the Federal Emergency Management Agency and Environmental Protection Agency had to find and equip alternate facilities to continue operations and contribute to the emergency response.<sup>23</sup>

In the absence of a COOP plan, it took almost three days to procure, adapt, and equip a suitable alternate facility to support the performance of essential functions for first responders. The city identified an empty warehouse space at Pier 92 on the Hudson River, rushing to add interior partitions along with power and telecommunications wiring and bringing in equipment, furnishings, and supplies. On September 14, the Pier began functioning as the city's EOC, Joint Information Center, and alternate seat of government, providing a base for the Mayor and other key officials. Representatives from more than 150 city, state, federal, and private organizations operated in the EOC as the city's Office of Emergency Management worked to ensure continuity of operations and recovery in downtown Manhattan.<sup>24</sup>

While no one would question the heroic efforts of New York City's personnel in responding to the World Trade Center disaster, the existence of a COOP plan and a pre designated and prepared alternate facility could only have made those efforts even more effective.<sup>25</sup>

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<sup>22</sup> Federal Emergency Management Agency, *Interim Guidance on Continuity of Operations Planning for State and Local Government*, (Department of Homeland Security, May 2004), A 10.

<sup>23</sup> Matt S. Walton III, *Rebuilding an Emergency Operations Center for NYC following 9/11*, DSSResources.com, (accessed March 23, 2006).

<sup>24</sup> New York City Emergency Management, *Emergency Operations at Pier 92*, [http://www.nyc.gov/html/oem/html/other/sub\\_news\\_pages/911/response\\_p2.html](http://www.nyc.gov/html/oem/html/other/sub_news_pages/911/response_p2.html), (accessed March 23, 2006).

<sup>25</sup> Kendra, J. Wachtendorf and T. Wachtendorf, *Elements of Community Resilience in the World Trade Center Attack* (Newark: Univ. of Delaware, 2003), 4.

Subsequently, New York City developed a COOP after September 11, 2001 and was faced with its first COOP challenge when its citizens rose to the extraordinary challenges presented by the August 14, 2003 power outage and, as a result, have a lot of which to be proud. Much of what went well during this outage was the result of lessons learned and precautions taken following previous disasters and crises, most notably September 11, 2001, as well as planning for Y2K and the threatened transit strike. Compared to 2001, and reflecting extensive public outreach, in 2003 more New Yorkers are better equipped to deal with emergency situations. Institutions in both the public and private sectors have developed more complete COOP and business continuity plans, including installing backup power and distributing emergency kits to employees.<sup>26</sup>

The after action assessment resulted in thirty-five recommendations. Because every emergency event is unique and often requires moment-by-moment decision-making, the Task Force recommendations endorse flexible protocols that encourage cooperation between the public and private sectors and leverage both public and private resources.<sup>27</sup> According to the New York City Emergency Response Task force chaired by Andrew Alper and Susan L. Kupferman, the following recommendations involve COOP development and are a subset of the thirty-five recommendations listed in the after action assessment:

- Strengthen self-activating emergency plans for essential staff;
- Develop a hardened citywide communications infrastructure that has the capacity to survive public infrastructure failures;
- Develop an emergency resources database;
- Conduct a backup power survey and develop a backup power installation plan;
- Enhance the City's emergency fuel management plan;
- Ensure City agencies have evacuation plans and drill regularly on plans;

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<sup>26</sup> Wachtendorf and Wachtendorf, *Elements of Community Resilience*, 4.

<sup>27</sup> New York City Emergency Response Task Force, *Enhancing New York City's Emergency Preparedness A Report to Mayor Michael R. Bloomberg* (New York, NY: City of New York, 2003), 1.



- Develop guidance on emergency kits for the workplace;
- Review emergency dispatch and communications operations to improve the capacity for coordinated dispatch, and incident command and management.<sup>28</sup>

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<sup>28</sup> New York City Emergency Response Task Force, *New York City's Preparedness*, 16-19.

### III. LITERATURE REVIEW

#### A. CONTINUITY OF OPERATION PLANS, AN OVERVIEW

The purpose of a COOP is to provide a local jurisdiction with guidance that will direct essential services effectively in the event the capability to perform essential services are in jeopardy of being lost or are lost and in a timely manner during an all hazard event and it provides for the resumption of normal operations once the emergency has ended. An all hazards approach can consist of natural events such as a tornado, flooding or blizzard; an infrastructure failure such as an electrical outage, contaminated water supply or communication failure; a terrorist/criminal event such as a CBRN event; a pandemic; and finally a regional event that overwhelms resources that would require the local jurisdiction to provide aid to surrounding jurisdictions to include the loss of personnel to keep essential services operational.

Local government has a fundamental responsibility to provide uninterrupted essential services to the public regardless of circumstances. COOP planning is simply a “good business practice”—part of the fundamental mission as a responsible and reliable public institution.<sup>29</sup> Without well developed COOP planning, local government risks leaving their citizens without vital services in what could be their time of greatest need. COOP planning is applicable to an all hazards approach including natural disasters, accidents, technological failures, work place violence, and emergencies related to foreign or domestic acts of aggression.

Most local government strives to be prepared, to the greatest extent possible, to respond to all hazard disasters and emergencies within their jurisdiction to save lives; protect the public health, safety, and well being; protect property; maintain public order; and restore basic police services. The extent to which disasters and emergencies can interrupt, paralyze, disrupt, and/or destroy our capabilities to preserve civil government institutions and perform essential government functions effectively under emergency conditions can vary. Consequently, it is imperative local government develop and maintain a COOP. The COOP is designed to develop and maintain a plan that enables

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<sup>29</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations Plan (COOP) Guidance for Local Government* (Columbus, Ohio: State of Ohio, 2005), ii.

local government to preserve, maintain, and/or reconstitute its capability to function effectively in the event of the threat or occurrence of any disaster or emergency that could potentially disrupt local government operations and services.

The review of existing literature shows federal and state guidance, circa 2002-2005, for COOP development for local government. There is also international guidance from Canada and Australia. Private enterprise also weighs in but uses the federal and state guidance as a base for their literature. Access to actual local government COOP documents is limited due to the confidential nature of their content. In fact, local COOPs in Florida are protected from public records requests and are for authorized personnel only which limited the author's access to completed Florida COOPs. The following literature review focuses on documents categorized by international, national and private, state, and local sources.

An interesting aspect of the literary research process showed a remarkable lack of academic literature. Academic journal articles regarding government COOP development and academic research regarding the effectiveness for existing COOPS is practically non-existent. It would appear academia regards COOP development and effectiveness as too much within the operational arm of government rather than an academic opportunity to research what makes a COOP effective. COOP guidance is being driven by intuitive management, government documents and lessons learned from government after-action reports.

## **B. INTERNATIONAL DOCUMENTS**

### **1. Australia**

The Commonwealth of Australia has a process for developing an overall emergency operations plan that includes continuity of operations. Australia integrates continuity of operations within its emergency operations plan. Australia offers the following planning steps: create a planning committee, emergency risk management, identify responsibilities, identify resources and services required, develop emergency management arrangements and systems, document the plan and monitor and review the plan.<sup>30</sup> The emergency planning process is designed to produce a set of arrangements

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<sup>30</sup> Commonwealth of Australia, *Emergency Planning Manual Number 43* (Dickson ACT: Australian Government Attorney-General's Department, 2004), 10.

that will provide the basis for managing emergency impacts.<sup>31</sup> Australia has identified elements that should be contained in a COOP, which are collated later in this thesis.

## **2. Canada**

Canada offers guidance on a municipal emergency plan and a business continuity plan. The *Canadian Municipal Emergency Plan* is closely associated with the U.S. emergency operations plan (EOP) standard while the *Canadian Business Continuity Plan* is more closely associated with the U.S. COOP model. However, it should be noted that many of the concepts and elements of each of these plans cross over and/or closely integrate the plans with each other.

The *Canadian Business Continuity Plan* calls for an emergency management team, emergency operations center (both primary and alternate), scope and objectives, business function (the U.S. equivalent of an essential function), exercise log and document revision history.<sup>32</sup> The same document calls for a recovery procedure, recovery time objective, recovery location, recovery steps, dependencies and other considerations.<sup>33</sup> Some business functions to consider are vital records, equipment and office supplies needed, facilities required, and people and/or services required.<sup>34</sup> The Canadian business continuity plan offers a template to follow. Canada has identified elements that should be contained in a COOP which are collated later in this document.

## **C. FEDERAL DOCUMENTS**

The *National Strategy for Homeland Security* calls for the development of continuity of operation plans for all departments and agencies.<sup>35</sup> State and local levels of government have primary responsibility for funding, preparing, and operating the emergency services that would respond in the event of a terrorist attack. Local units are the first to respond, and the last to leave the scene. All disasters are ultimately local events.<sup>36</sup> Therefore, local jurisdictions must develop COOPs.

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<sup>31</sup> Australia Natural Disasters Organisation, *Community Emergency Planning Guide Second Edition* (Queanbeyan NSW: Natural Disasters Organisation, 1992), 10.

<sup>32</sup> Canadian Centre for Emergency Preparedness, *Business Continuity Plan* (Toronto: Canadian Government, 2000), 1-14.

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid, 32.

<sup>36</sup> Ibid, 1-14.

Eric Petersen for the Congressional Research Center defines COOP planning as a segment of federal government contingency planning that refers to the internal effort of an organization, such as a branch of government, department, or office, to assure that the capability exists to continue essential operations in the aftermath of a comprehensive array of potential operational interruptions. COOP planning is critical because much of the recovery from an incident, which might include the maintenance of civil authority, and infrastructure repair, among other recovery activities, presumes the existence of an ongoing, functional government to fund, support, and oversee actions taken. Effective COOP planning must provide, in advance of an incident, a variety of means to assure contingent operations.<sup>37</sup>

In addition, in a report to Congress regarding COOP planning, Eric Petersen reported that the COOP could outline the process the agency will follow to designate essential functions and resources, define short and long-term COOP goals and objectives, forecast budgetary requirements, anticipate and address issues and potential obstacles, and establish planning milestones. A completed COOP plan would likely incorporate several elements, including: identification of an agency's essential functions which must continue under all circumstances; stipulation of agency lines of succession and delegation of authorities; provisions for the use of alternate facilities; establishment of emergency operating procedures; establishment of reliable, interoperable communications; provisions for the safekeeping of vital records and databases; provisions for logistical support; personnel issues; security measures for personnel, records and alternate facilities; and development of exercises and training programs to assure the effectiveness of COOP planning.<sup>38</sup>

According to private enterprise author Chris Alvord, per federal current guidance, viable COOP capability must take maximum advantage of existing agency field infrastructures.<sup>39</sup> At minimum, the plan should delineate essential functions and activities: outline decision process for determining appropriate actions in implementing

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<sup>37</sup> Eric R. Petersen, *Continuity of Operations (COOP) in the Executive Branch: Background and Issues for Congress* (Washington, D.C.: Congressional Research Service, 2003), 1-15.

<sup>38</sup> Ibid.

<sup>39</sup> Chris Alvord, *Federal Agencies Continuity of Operations Planning (COOP) Guidelines* (Reston: COOP Consulting LLC. 2003), 1.

COOP plans and procedures; establish a roster of fully equipped and trained emergency personnel with authority to perform essential functions and activities; include procedures for employee advisories, alerts, and COOP plan activation, with instructions for relocation to pre-designated facilities, with and without warning, during duty and non-duty hours; provide for personnel accountability throughout duration of emergency; provide for attaining operational capability within 12 hours; and establish reliable processes and procedures to acquire resources necessary to continue essential functions, sustain operations up to 30 days.<sup>40</sup> Alvord also asserts continuity objectives should include: ensuring continuous performance of agency's essential functions/operations during emergency; protecting essential facilities, equipment, records, assets; reducing or mitigating disruptions to operations; reducing loss of life, minimizing damage and losses; and achieving timely and orderly recovery from emergency and resumption of full service to customers.<sup>41</sup>

Federal Preparedness Circular (FPC) 65 provides guidance to Federal executive branch department and agencies for the development of viable and executable contingency plans for the continuity of operations. FPC 65 is the flagship of Federal COOP guidance and was released in 2004. FPC 65 encompasses all levels of Federal Executive Branch departments, agencies, and independent organizations. According to FPC 65 the objectives of a COOP are to ensure the continuous performance of an agency's essential functions/operations during an emergency; protect essential facilities, equipment, records, and other assets; reduce or mitigate disruptions to operations; reduce loss of life, minimize damage and losses; and achieve a timely and orderly recovery from an emergency and resumption of full service to customers. FPC 65 directs all agency COOP capabilities to encompass the following elements: plans and procedures; identification of essential elements; delegations of authority; orders of succession; alternate facilities; interoperable communications; vital records and databases; and tests, training, and exercises. Further, FPC 65 suggests a time-phased approach for three phases defined under a COOP. The three phases include: Phase One—Activation and

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<sup>40</sup> Chris Alvord, *Federal Agencies Guidelines*, 1.

<sup>41</sup> Alvord, <http://www.nedrix.com/presentation> (accessed September 19, 2005).

Relocation (0-12 hours); Phase Two—Alternate Facility Operations (12 hours – termination); and Phase Three—Reconstitution (termination and return to normal operations).<sup>42</sup>

Dr. Jim Kennedy, who is a private enterprise author, states a COOP program consists of seven phases: project initiation; identification of functional requirements - mission impact analysis, risk assessment and mitigation strategies and plan; plan design and development; COOP program implementation; training, testing and drills; COOP revision and updating; COOP execution.<sup>43</sup> Dr. Kennedy also advised that at minimum each governmental operation needs to ask and answer the following questions. What are the operation's essential function and key personnel? How can the operation's facilities, vital records, equipment, and other critical assets be protected? How can disruption to the agency's or department's operations be reduced? How can damages and loss of life be minimized? Is it possible through proper planning to achieve timely and orderly recovery from an emergency to full service to the services users?<sup>44</sup>

The Federal Emergency Management Agency (FEMA) has built COOP development guidance from FPC 65. Before the mid-1990s, governments and the public were primarily concerned with the impacts of natural and accidental technological disasters. Since that time, our nation has been forced to acknowledge and plan for the devastating consequences of intentional acts of destruction, such as the June 1993 bombing of New York City's World Trade Center, the April 1995 bombing of the Murrah Federal Building in Oklahoma City, the September 2001 airline attacks on the World Trade Center and Pentagon, and the September/October 2001 mailings of anthrax to targets along the East Coast. FEMA's *Interim Guidance on Continuity of Operations Planning for State and Local Governments* is designed to help state and local governments/jurisdictions develop COOPs tailored to the characteristics of their individual organizations and the essential functions they perform. The guidance

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<sup>42</sup> Office of Homeland Security, *Federal Preparedness Circular 65* (Washington D.C.: U.S. Government Printing Office, 2004), 1-2.

<sup>43</sup> Jim Kennedy, *Continuity of Operations Planning: Survival for Government* (Continuity Central, April 29, 2005), <http://www.continuitycentral.com> accessed August 31, 2005.

<sup>44</sup> Ibid.

promotes a step-based approach to COOP planning.<sup>45</sup> The following are the FEMA steps in COOP development: Step 1, COOP planners initiate the planning process by studying and documenting the background factors that will influence how the organization prepares for COOP; Step 2, planners engage in the important task of identifying and documenting the organization's essential operations, functions, and responsibilities; Step 3, planners develop the basic plan for COOP, they outline provisions to ensure continuity of governmental authority and the order of succession for key positions; identify the key personnel to perform essential functions in an emergency; develop strategies for protecting vital records, databases, systems, and equipment; and identify, evaluate, and select the alternate facilities to be used for the organization's emergency operations; Step 4, procedures are developed to ensure appropriate and timely execution of the COOP plan during an emergency; and Step 5, planners address measures to ensure that the organization maintains its readiness for COOP.<sup>46</sup>

The U.S. Department of Homeland Security's Lessons Learned Information Sharing (LLIS) offers a number of documents designed to assist in COOP development. Agencies within local government that require COOP plans are: law enforcement, fire, 911 emergency dispatch, public works, emergency medical services, emergency management, utilities, departments of health/public health, executive/elected offices.<sup>47</sup> LLIS advises local jurisdictions should develop a COOP that include key elements such as the identification of essential functions, delegation of authorities, order of succession, protection of vital documents and systems, alternate operating locations, communications plans, and a plan for tests, training, and exercises.<sup>48</sup> LLIS offers documents on developing each of these key COOP elements. Although templates are useful for mapping out the COOP plan, many continuity planners recommend against relying too

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<sup>45</sup> Federal Emergency Management Agency, *Interim Guidance on Continuity of Operations Planning for State and Local Government*, A 6.

<sup>46</sup> Ibid, A 6-7.

<sup>47</sup> Lessons Learned Information Sharing, *State and Local Government Continuity of Operations Planning: Developing a Continuity of Operations Plan*, (U.S. Department of Homeland Security), <http://www.llis.dhs.gov>, November 2005.

<sup>48</sup> Ibid.



heavily on outlines, worksheets, and templates. It is important for the jurisdiction and agencies to “own” the COOP process by participating in the actual planning and development of the plan.<sup>49</sup>

#### **D. STATE DOCUMENTS**

A number of states offer guidance in COOP development for local jurisdictions. Much of the guidance is based on federal documents previously discussed or the emulation of another states’ COOP guidance. Some of the states include specific COOP elements unique to that state. California, Maryland, Florida, Wisconsin and Ohio provide guidance for COOP development. The COOP guidance documents from these states have been reviewed. Florida was an early developer of COOP guidance, 2002. In addition, Florida has developed and activated local COOPS during its hurricane season in recent years. In fact, four hurricanes hit Florida in 2004. California and Wisconsin was reviewed because their COOP guidance was developed in 2003. In addition, California has experienced eighteen major disasters since 1989.<sup>50</sup> Maryland’s guidance was developed in 2004 and Ohio in 2005. Lastly, Maryland and Florida were cited and listed in the federal documents previously reviewed. A progression of state COOP element development can be obtained from these documents.

##### **1. California**

According to California, continuity of operations is a federal planning concept that focuses on government’s ability to continue essential functions.<sup>51</sup> California has relied on a variety of documents, such as business continuity or business resumption plans, to accomplish many of the same planning objectives as those of COG and COOP. To maintain consistency among federal, state, and local plans, California proposes that all levels of California government develop an integrated “continuity of government operations” capability, which is a consolidation of all the planning elements included in COG and COOP.<sup>52</sup> California proposes the following COOP/COG elements: emergency

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<sup>49</sup> Lessons Learned Information Sharing, *State and Local Government Continuity of Operations Planning: Elements of a Continuity of Operations Plan*.

<sup>50</sup> California Governor's Office of Emergency Services, *State of California Emergency Plan* (Sacramento, CA: Governor's Office of Emergency Services, 2005), 1.

<sup>51</sup> Governor’s Officer of Emergency Services, *Continuity of Government (COG) and Continuity of Operations (COOP) Emergency Planning Guidance for a Consolidated Approach* (Sacramento, California, 2005), 3.

<sup>52</sup> Ibid.

concepts, actions and procedures provided in emergency plans and emergency action plans; identification and prioritization of essential functions; line of succession to essential positions required in an emergency; delegation of authority and pre-delegation of emergency authorities to key officials; emergency operations centers, alternate (work-site) facilities and alternate emergency operations centers; interoperable communications; protection of government resources, facilities and personnel; safeguarding of vital records and databases; tests, training and exercises.<sup>53</sup>

## **2. Maryland**

According to the State of Maryland, when devising a COOP, an agency must consider the assumptions underlying the plan. These assumptions include what threats will affect an agency's ability to carry out its mission; the expected impact on the agency for each potential threat; the probability that each potential threat will occur; whether personnel or resources from other federal and/or state agencies, municipalities, or organizations not affected will be available; that the agency will implement a plan within twelve hours after the event; and that the plan will provide for the ability to continue operations for at least fourteen days after the emergency. The key purpose of COOP planning is to reduce the consequences of a disaster to an acceptable level.<sup>54</sup> Although when and how a disaster will occur is not known, the fact that future disasters will happen is certain. The following table lists the many potential threats that could activate a COOP.<sup>55</sup>

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<sup>53</sup> Governor's Officer of Emergency Services, *Planning Guidance for a Consolidated Approach*, 6-9.

<sup>54</sup> Maryland Emergency Management Agency, *Maryland State Agencies: Preparing for an Emergency: Continuity of Operations (COOP) Planning for State Agencies* (Baltimore, Maryland: Maryland Emergency Management Agency, 2004), 12.

<sup>55</sup>*Ibid*, 1-15.

Naturally Occurring	Human-Induced	
	Intentional	Unintentional
<ul style="list-style-type: none"> <li>• Tornadoes</li> <li>• High Winds</li> <li>• Electrical Storms</li> <li>• Ice Storms</li> <li>• Snowstorms and Blizzards</li> <li>• Floods</li> <li>• Earthquakes</li> <li>• Epidemics</li> <li>• Major Landslides</li> <li>• Hurricanes and Typhoons</li> <li>• Tropical Storms</li> <li>• Wildfires</li> <li>• Droughts</li> </ul>	<ul style="list-style-type: none"> <li>• Misuse of Resources</li> <li>• Security Breaches</li> <li>• Theft</li> <li>• Fraud/Embezzlement</li> <li>• Fire/Arson</li> <li>• Vandalism</li> <li>• Sabotage: External and Internal Actors</li> <li>• Workplace Violence</li> <li>• Bomb Threats</li> <li>• Bioterrorism</li> <li>• Physical Terrorist Assaults</li> <li>• Labor Disputes/Strikes</li> <li>• Disruption of Supply Sources</li> <li>• Transportation System Disruption or Shutdown</li> <li>• Riot/Civil Disorder/War</li> </ul>	<ul style="list-style-type: none"> <li>• Voice &amp; Data Telecommunications Failures or Malfunctions</li> <li>• Software/Hardware Failures or Malfunctions</li> <li>• Unavailability of Key Personnel</li> <li>• Human Errors</li> <li>• Power Outages: External or Internal</li> <li>• Water Outages</li> <li>• Gas Outages</li> <li>• HVAC System Failures or Malfunctions</li> <li>• Accidental Damage to or Destruction of Physical Facilities</li> </ul>

Table 1. Maryland Potential Threats

How well (or poorly) a COOP plan is designed and implemented will determine response, resumption, recovery, and restoration.<sup>56</sup> The State of Maryland Emergency Management Agency has identified basic elements of a COOP: essential functions and key personnel such as the delegation of authority and order of succession; vital records, systems and equipment; alternate work site(s) / relocation; and communications.<sup>57</sup> The State of Maryland recognizes that often while devising a plan to cover one of these elements, ideas may arise which will change or augment the plan for another element.<sup>58</sup>

### 3. Florida

Florida has been identified by the U.S. Department of Homeland Security as being the top state in the nation for emergency preparedness. Florida was an early leader

<sup>56</sup> Maryland Emergency Management Agency, *Maryland State Agencies*, 12.

<sup>57</sup> *Ibid*, 1-15.

<sup>58</sup> *Ibid*.

in COOP development, document circa 2002. Local Florida COOPs are activated on an annual basis, they require after-action reports which results in updated COOPs.

The State of Florida cites the following objectives for a COOP: to ensure the safety of personnel and visitors; provide for the ability to continue essential operations; contain provisions for the protection of critical equipment, records, and other assets; maintain efforts to minimize damage and losses; contain provisions for an orderly response and recovery from any incident; serve as a foundation for the continued survival of leadership; assure compliance with legal and statutory requirements.<sup>59</sup> In order to obtain these objectives Florida has cited the following essential elements for a COOP: plans and procedures; mission essential functions; delegations of authority; orders of succession; alternate facilities; interoperable communications; vital records and databases; logistics and administration; personnel issues and coordination; security; test, training and exercise; program management.<sup>60</sup> Florida recognizes that these elements may overlap. Florida gives COOP organization guidance by providing the following chapters: introduction, concept of operations, responsibilities and procedures, activation, alternate operations, reconstitution and termination.<sup>61</sup>

#### **4. Wisconsin**

Each county in Wisconsin should have in place a comprehensive and effective program to ensure the continuity of essential functions under all circumstances. As a baseline of preparedness for the full range of potential emergencies, all county agencies should have in place a COOP/COG plan that ensures the performance of their essential functions during any emergency or situation that may disrupt normal operations.<sup>62</sup> A Wisconsin COOP must be maintained at a high level of readiness, be capable of implementation both with and without warning, be operational no later than 12 hours after activation, maintain sustained operations for up to 30 days and should take

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<sup>59</sup> Florida Division of Emergency Management, *COOP Coordinator – Orientation Session* (Tallahassee, Florida, 2002), 5.

<sup>60</sup> *Ibid*, 7.

<sup>61</sup> Florida Division of Emergency Management, *Continuity of Operations (COOP) Plan Outline* (Tallahassee, Florida, 2005), 3-4.

<sup>62</sup> Wisconsin Emergency Management, *Operations Plan Guidance, Wisconsin County Government Continuity of Operations (COOP)/Continuity of Government (COG)* (Madison, Wisconsin, 2003), 3.

maximum advantage of existing agency field infrastructures.<sup>63</sup> Wisconsin gives COOP organization guidance by providing the following chapters: purpose, authorities, objectives, COOP/COG implementation, and the COOP/COG plan.<sup>64</sup>

## **5. Ohio**

The State of Ohio COOP development and guidance was chosen because it has recently been developed and has a clear structure containing many of the necessary COOP elements previously identified. Ohio has made a concerted effort to develop COOP guidance due to the Ohio Homeland Security Strategic Plan mandating all local jurisdictions to write a COOP. Ohio's COOP guidance used FPC 65, FEMA, LLIS and Maryland as resources in developing its template. In addition the State of Ohio Homeland Security Strategic Plan county and city government agencies should ensure their hometown security plans and programs adequately address the needs of their communities.<sup>65</sup>

Ohio advocates the first step to implementing a local COOP is laying the foundation. For Norwalk, the COOP foundation can be found in Ohio's COOP guidance propagated by the Ohio Emergency Management Agency. Ohio's COOP guidance is a five step process. The first step includes: familiarize yourself and the COOP planning team with the concepts, information and sources of training underlying continuity of operations planning; identify or enact legal authorities for a COOP program; identify COOP reference documents; identify key players in the local COOP development; and conduct a risk assessment.<sup>66</sup>

After these initial activities are conducted, the second step will be framing the COOP program. The following activities must occur to properly frame the COOP: identify essential functions; identify key staff for performing essential functions and operations; determine delegations of authority; determine orders of succession; identify

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<sup>63</sup> Wisconsin Emergency Management, *Operations Plan Guidance*, 3.

<sup>64</sup> Ibid, 3-12.

<sup>65</sup> State of Ohio Security Task Force, *Ohio Homeland Security Strategic Plan* (Columbus, Ohio: State of Ohio, Department of Public Safety, 2004), 13.

<sup>66</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations (COOP) Plan Guidance For Local Government* (Columbus, Ohio: State of Ohio, 2005), 1-3.

alternate work location(s); identify vital records, documents and systems; identify communications assets for use during a “COOP event”; and identify mission critical systems.<sup>67</sup>

The third step is putting the pieces together. This step entails opening the Ohio COOP plan template starting with the executive summary then working through the full template using the guidance provided.<sup>68</sup> During this step, the major effort will be incorporating all prior activities and their results into a single COOP document.

Step four is implementing the developed COOP program. COOP developers will ensure that all personnel are aware of the COOP plan and have knowledge of the portions of the plan that will affect them in the event the plan is activated. A list of the emergency conditions, events and situations under which the COOP would be implemented will be developed. In addition, COOP training and exercise will occur.<sup>69</sup>

Finally, the COOP must be maintained. A multi-year strategy must be developed with local leadership committing to maintaining the local COOP.<sup>70</sup>

The development of local government COOPs in Ohio should build upon recently released (rough draft release September 2005) COOP template offered by the State of Ohio for local government COOP development. Ohio’s COOP Template Instructions outlines the organization and content of the COOP plan and describe what it is, whom it affects, and the circumstances under which it should be executed. Ohio’s COOP Template recommends the following chapters for a COOP: executive summary; introduction; purpose; applicability and scope; essential functions; authorities and references; concept of operations; COOP planning responsibilities; logistics; test, training and exercises; multi-year strategy and program management plan; and COOP Plan Maintenance.<sup>71</sup>

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<sup>67</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations Guidance*, 4-7.

<sup>68</sup> Ibid, 8-10.

<sup>69</sup> Ibid, 11-12.

<sup>70</sup> Ibid, 12-14.

<sup>71</sup> Ohio Emergency Management Agency, *Continuity of Operations (COOP) Plan Template* (Columbus, Ohio: State of Ohio, 2005), 1-11.

## **6. State Differences**

The guidance given by California, Maryland, Wisconsin and Ohio is based on federal documents and include common elements however there are some differences. California and Wisconsin recommend the COOP and COG be contained within the same document. Florida specifically cites providing for an orderly response and recovery from any incident (all hazard approach) as a COOP objective.<sup>72</sup> In addition Florida's COOP does not include the ICS element or the photographs, charts, rosters and maps element. ICS is contained in Florida's EOP and photographs, charts, rosters and maps are either contained in other identified COOP elements or are part of the EOP as well.

Ohio's COOP guidance does not contain the following COOP elements: COG, ICS, financial management, security measures, drive-away kits, after-action reports and staff/dependent care plans. It is not clear why these elements were not included. In addition, Ohio recommends a multi-year strategy and program management plan as part of its COOP guidance to include a review cycle table.<sup>73</sup> Maryland does not specifically list either as one of its four basic functions.<sup>74</sup> The COOP elements for each state will be collated in a subsequent chapter.

## **E. LOCAL DOCUMENTS**

### **1. King County and Seattle, Washington**

The Region 6 Homeland Security Strategic Plan for King County, Washington includes the development of a COOP and links local government and private business. The strategic plan states the county will develop regional COOP/COG and business continuity plans (a COOP and business continuity plan appear to be the same concept within this document using government and business as distinctions between the two terms); promote awareness of business continuity planning and its relationship to public sector COOP/COG; invest in preparation, training, and planning for utilities and public

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<sup>72</sup> Florida Division of Emergency Management, *COOP Coordinator – Orientation Session*, 5.

<sup>73</sup> Ohio Emergency Management Agency, *Continuity of Operations (COOP) Plan Template*, 1-11.

<sup>74</sup> Maryland Emergency Management Agency, *Maryland State Agencies: Preparing for an Emergency: Continuity of Operations (COOP) Planning for State Agencies*, 1-15.

works; emphasize the critical role of information technology (IT) to business and government operations; focus on continuity of critical infrastructure services and key assets.<sup>75</sup>

## **2. Huron County, Ohio**

Some state and county EOPs simply direct the local government subscribing to the EOP or strategic homeland security plan to develop their own specific COOP. An example of this is Huron County, Ohio. The COOP for Huron County, Ohio is in the county EOP and simple states: each department of Huron County government, and each city, village, and township and their departments are responsible for: (1) pre-designating lines of succession; (2) pre-delegating authorities for the successors to key personnel; (3) making provisions for the preservation of records; (4) developing procedures for the relocation of essential departments; (5) developing procedures to deploy essential personnel, equipment and supplies. Each jurisdiction will include this information in its Standard Operating Guidelines.<sup>76</sup> The Huron County COG is a separate from the COOP section within the EOP.

## **3. Norwalk, Ohio**

Continuity of operation plans either do not exist for many small to medium local governments in Ohio or need to be updated. For example, the City of Norwalk, Ohio is representative of the typical small to medium local jurisdiction in Ohio. In 1964 the City of Norwalk developed a city wide comprehensive plan which does not include a continuity of operation plan.<sup>77</sup> Norwalk's comprehensive plan was not adopted by city council until 1972. Since then, the Norwalk comprehensive plan has been reviewed periodically, but has not been updated with a COOP.

## **F. LOCAL COOP DEVELOPMENT PROCESS**

Local government can initiate the COOP development process by requiring all local government department directors to write a COOP for their respective department that includes the identified compilation of COOP elements. Once the department

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<sup>75</sup> King County, Washington, *Region 6 Homeland Security Strategic Plan* (Seattle, Washington: King County, Washington, December 2004), 16-17.

<sup>76</sup> Huron County Emergency Management Agency, *Emergency Operation Plan* (Norwalk, Ohio: Huron County Emergency Management Agency, 2000), BP-26.

<sup>77</sup> Ladislav, Segoe & Associates, *Norwalk Comprehensive Plan* (Norwalk, Ohio: City of Norwalk, Ohio, Economic Development, 1965), 1-77.



COOPS are written, then a broader COOP can be developed incorporating the department COOPS. A standard process can be followed by all department directors. This thesis does not analyze the different COOP development process as offered by various states. However, the following Ohio COOP development process is similar to most states:

- Familiarize yourself and the COOP planning team with the concepts, information and sources of training underlying continuity of operations planning;
- Identify or enact legal authority(ies) for a COOP program (each department may have different legal authorities for example, EPA regulations for the water department would not apply to the finance department);
- Identify COOP reference documents;
- Identify key personnel in your agency/jurisdiction COOP;
- Conduct a risk assessment;
- Identify essential functions;
- Identify key staff for performing essential functions and operations; determine delegations of authority;
- Determine orders of succession;
- Identify alternate work location(s);
- Identify vital records, documents and systems;
- Identify communications assets for use during a “COOP event”; identify mission critical systems;
- Ensure that all personnel are aware of COOP plan and have knowledge of the portions of the plan that will affect them in the event the plan is activated;
- Develop a list of the emergency conditions, events and situations under which the plan would be implemented;

- Implement a COOP training program;
- Exercise your COOP; and
- Maintain a multi-year strategy and program for plan maintenance.<sup>78</sup>

#### **G. CONNECTING THE DOTS**

As evidenced in the literature review international, federal, state and limited local governments offer COOP guidance that may be applied to local jurisdictions in their COOP development. A list of common as well as unique elements for each specific state will be compiled. The remaining efforts of this thesis will be to collate the common and unique elements for the compilation of elements that should be included in a local COOP.

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<sup>78</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations Plan (COOP) Guidance for Local Government*, iii.

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#### **IV. COMMON, UNIQUE AND BEST PRACTICE COOP ELEMENTS**

##### **A. SEVENTEEN REVIEWED COOP DOCUMENTS AND THEIR COOP ELEMENTS**

By collating COOP guidance from seventeen documents, common COOP elements were observed. The seventeen documents reviewed and previously cited are as follows:

1. Commonwealth of Australia, *Emergency Planning Manual Number 43*;
2. Canada, *Business Continuity Plan*;
3. *Federal Preparedness Circular 65*;
4. Petersen's *Continuity of Operations (COOP) in the Executive Branch: Background and Issues for Congress*;
5. General Services Administration's *Continuity of Operations Plan 2002; Release: 0111501V18.0.*;
6. *National Strategy for Pandemic Flu*;
7. *NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs, 2004 Edition*;
8. Transit Cooperative Research Program and National Cooperative Highway Research Program's *Continuity of Operation (COOP) Planning Guidelines for Transportation Agencies - TCRP Report 86/NCHRP Report 525*;
9. Florida, *Continuity of Operations (COOP) Plan Outline*;
10. *Maryland State Agencies: Preparing for an Emergency: Continuity of Operations (COOP) Planning for State Agencies*;
11. *Ohio Continuity of Operations Plan (COOP) Guidance for Local Government*;
12. Virginia, *Continuity of Operations (COOP) Planning Manual, Version 1*;
13. *Operations Plan Guidance, Wisconsin County Government Continuity of Operations (COOP)/Continuity of Government (COG)*;

14. California, *Continuity of Government (COG) and Continuity of Operations (COOP) Emergency Planning Guidance for a Consolidated Approach*;
15. *Santa Rosa County Continuity of Operations Plan*;
16. *Pasco County Continuity of Operations Plan*;
17. *Seattle Disaster Readiness and Response Plan, Volume 1*.

The following table is the COOP element to document reviewed break down.

Table 2. Seventeen COOP Documents and Their COOP Elements

	Australia	Canada	FPC 65	Congress	GAO	Pandemic
<b>Purpose/Objective</b>		X			X	X
<b>COG</b>						
<b>Applicability and Scope</b>		X			X	X
<b>Sensitivity</b>						
<b>Authorities and References</b>				X	X	X
<b>Plans and Procedures</b>		X	X	X	X	X
<b>Classification and Responses</b>	X	X	X		X	X
<b>Delegation of Authority</b>			X	X	X	X
<b>Orders of Succession</b>			X	X	X	X
<b>ICS</b>						
<b>Essential Functions</b>		X	X	X	X	X
<b>Alternate Facilities</b>		X	X	X	X	X
<b>Drive-Away Kits</b>		X			X	
<b>Interoperable Communications</b>	X	X	X	X	X	X
<b>Vital Records, Databases and Systems</b>			X	X	X	X
<b>Financial Management</b>	X	X			X	
<b>Security Measures</b>				X	X	
<b>Staff/Dependent Care Plans</b>				X	X	X
<b>Photos, Charts, Rosters and Maps</b>						
<b>Tests, Training and Exercises</b>	X	X	X	X	X	X
<b>Plan Management/Maintenance</b>		X		X	X	

	Transport.	NFPA 1600	FL	MD	OH	VA	WI	CA
Purpose/Objective	X	X	X		X	X	X	X
COG				X			X	X
Applicability and Scope		X	X		X			X
Sensitivity								
Authorities and References	X	X	X		X		X	X
Plans and Procedures	X	X	X	X	X	X	X	X
Classification and Responses	X	X	X	X	X	X	X	X
Delegation of Authority	X	X	X	X	X	X	X	X
Orders of Succession	X	X	X	X	X	X	X	X
ICS								
Essential Functions	X		X	X	X	X	X	X
Alternate Facilities	X	X	X	X	X	X	X	X
Drive-Away Kits	X		X			X		
Interoperable Communications	X	X	X	X	X	X	X	X
Vital Records, Databases and Systems	X	X	X	X	X	X	X	X
Financial Management	X	X					X	
Security Measures			X	X				X
Staff/Dependent Care Plans	X		X	X		X		
Photos, Charts, Rosters and Maps				X	X			
Tests, Training and Exercises	X	X	X	X	X	X	X	X
Plan Management/Maintenance	X	X	X	X	X	X	X	

	Santa Rosa	Pasco Co.	Seattle
Purpose/Objective		X	X
COG			X
Applicability and Scope		X	X
Sensitivity			
Authorities and References			X
Plans and Procedures	X	X	X
Classification and Responses	X	X	X
Delegation of Authority		X	X
Orders of Succession		X	X
ICS			
Essential Functions	X	X	X
Alternate Facilities	X	X	X
Drive-Away Kits	X	X	
Interoperable Communications		X	
Vital Records, Databases and Systems	X	X	
Financial Management			X
Security Measures		X	X
Staff/Dependent Care Plans	X	X	X
Photos, Charts, Rosters and Maps	X		
Tests, Training and Exercises	X		
Plan Management/Maintenance		X	

## **B. COOP ELEMENTS COMMON IN SEVENTEEN COOP DOCUMENTS**

The following COOP elements commonly appear in the listed documents, they are followed by the percentage of appearance.

- Alternate Facilities, 94.1%;
- Classification and Responses, 94.1%;
- Procedural Language, 94.1%;
- Essential Functions, 88.2%;
- Purpose/Objective, 70.6%;
- Interoperable Communications, 88.2%;
- Tests, Training and Exercises, 88.2%;
- Delegation of Authority, 82.4%;
- Orders of Succession, 82.4%;
- Vital Records and Databases, 82.4%;
- Plan Management/Maintenance, 64.7%.
- Authorities and References, 58.8%;
- Personnel/Human Capital Language, 58.8%;
- Applicability and Scope, 52.9%;

As stated previously, the purpose of a COOP is to ensure the continuity of essential functions, yet this element was accounted for in 88.2% of the seventeen documents. It is possible that this occurred due to definition problems or the inclusion of essential elements into an EOP. This certainly appears to be the case for Australia.

Well over 90% of the guidance reviewed called for a vulnerability study to be conducted regarding all hazard threats to the jurisdictions and/or facilities. There appears to be a variety of ways to discuss the human capital element which appears to be in most guidance albeit under differing element titles.

COOP phases such as activation, relocation, reconstitution or mitigation, preparedness, response, recovery and termination was considered part of the classification and response element. The idea that COOP implementation occurs in phases is part of the concept of operations and appears to be integral to COOP development.

While the international examples did not match identified common COOP element language, they possess the elements under different language designation. It appears FPC 65 is a driving force in domestic COOP development. FPC 65 influence was observed in many of the examples by the identification of similar language.

### **C. COOP ELEMENTS UNIQUE IN SOME COOP DOCUMENTS**

Using the same seventeen COOP guidance documents listed previously, a number of unique COOP elements are observed in some of the documents but not the majority of the documents. These elements are followed by their percentage of occurrence are:

- Financial Management, 41.2%;
- Security Measures, 41.2%;
- Drive-Away Kits, 41.2%;
- COOP/COG Integration, 23.5%;
- Photographs, Charts, Rosters and Maps, 17.6%.

Including financial management and security measures in a COOP is good planning. A COOP is activated during an all hazard event which means resources will be needed and purchased. In addition, security concerns will always accompany an all hazard event.

If there is devolution during an all hazard event with COOP activation, logic would dictate that continuity of government will be at risk as well. COG, like COOP, is scalable dependent on the event and what local departments and jurisdictions are impacted. Combining the COOP and COG concepts will facilitate a response leadership.

Why photographs, charts, rosters and maps were not observed more often does not make much sense other than these items may be part of the overall EOP. It is also possible that smaller jurisdictions do not believe they need to be included due to the COOP developers being intimately aware of their limited area, personnel and resources.

Drive away kits are designed to aid personnel in the event of facility re-location. This would appear to be such a simple concept that it may have been overlooked by COOP developers, thus accounting for the low percentage of occurrence.



<b>COOP Element</b>	<b>Total</b>	<b>Percentage</b>
Plans and Procedures	16	94.1%
Classification and Responses	16	94.1%
Alternate Facilities	16	94.1%
Essential Functions	15	88.2%
Interoperable Communications	15	88.2%
Tests, Training and Exercises	15	88.2%
Delegation of Authority	14	82.4%
Orders of Succession	14	82.4%
Vital Records, Databases and Systems	14	82.4%
Purpose/Objective	12	70.6%
Plan Management/Maintenance	11	64.7%
Authorities and References	10	58.8%
Staff/Dependent Care Plans	10	58.8%
Applicability and Scope	9	52.9%
Drive-Away Kits	7	41.2%
Financial Management	7	41.2%
Security Measures	7	41.2%
COG	4	23.5%
Photographs, Charts, Rosters and Maps	3	17.6%
Sensitivity	0	0.0%
ICS	0	0.0%

Table 3. Collated COOP Elements

#### **D. LLIS COOP ELEMENT BEST PRACTICE**

According to the Lessons Learned Information Sharing (LLIS) website, the basic COOP plan itself will include key elements such as the identification of essential functions, delegation of authorities, order of succession, protection of vital documents and systems, alternate operating locations, communications plans, and a plan for tests, training, and exercises. According to LLIS, each agency must develop a response plan that details the initiation, implementation, and termination of the COOP plan.<sup>79</sup>

LLIS considers these COOP elements a best practice. This best practice document describes several aspects of COOP plans; many templates exist for adaptation in an individual agency or jurisdiction. Although templates are useful for mapping out the COOP plan, many continuity planners recommend against relying too heavily on

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<sup>79</sup> *Lessons Learned Information Sharing*, 2005, "State And Local Continuity of Operations Planning: Elements of a Continuity of Operations Plan," [www.LLIS.gov/](http://www.LLIS.gov/) (accessed November 16, 2005), 1-6.

outlines, worksheets, and templates. It is important for jurisdictions and agencies to “own” the COOP process by participating in the actual planning and development of the plan.<sup>80</sup>

LLIS recommends the following section headings as elements of any COOP plan. The percentage of occurrence in the seventeen documents is included.

- Alternate Operating Locations and Facilities, 94.1%;
- COOP Implementation and Plans, 94.1%
- Classifications of Emergencies and COOP Responses, 94.1%;
- Identification of Essential Functions and Critical Services, 88.2%;
- Tests, Training and Exercises, 88.2%;
- Protection of Vital Records, Databases and Systems, 82.4%;
- Delegation of Authority to Key Personnel, 82.4%;
- Orders of Succession for Key Personnel, 82.4%
- Purpose/Objective, 70.6%;
- Authorities and References, 58.8%;
- Staff/Dependent Care Plans, 58.8%.
- Applicability and Scope, 52.9%;
- Sensitivity, 0%;
- Incident Command System, 0%;

What is fascinating about the LLIS recommendations of COOP elements are the two elements that were never observed; sensitivity and ICS. Sensitivity is the public record classification of the COOP. A COOP discusses sensitive topics related to a government’s emergency response, including information on vulnerabilities. Distribution should be limited to government employees and support personnel. The COOP plan should be designated as “for official use only” or something similar. Planners should consult with legal counsel regarding issues related to freedom of information requirements and sunshine law issues.<sup>81</sup> Florida has a state statute making their COOPs not a public record. The federal government has a similar law. This probably accounts for the lack of sensitivity language within the COOP.

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<sup>80</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>81</sup> *Ibid.*

NIMS and ICS are normally covered under an EOP which the COOP is a part of. This accounts for the lack of ICS language. With this zero percent result, it is unclear why LLIS would recommend ICS be part of a COOP as a best practice. Although including ICS in a COOP would be advisable in case the person in charge of activating the COOP does not have access to the EOP as well.

An interesting aspect of the LLIS best practice for COOP elements is a published disclaimer in the document. The disclaimer states “The LLIS website and its contents are provided for informational purposes only and do not represent the official position of the US Department of Homeland Security or the National Memorial Institute for the Prevention of Terrorism (MIPT) and are provided without warranty or guarantee of any kind.”<sup>82</sup> Fascinating that COOP guidance is offered with the best practice defined yet responsibility is deferred by the U.S. Department of Homeland Security. One could conclude that the best practice is an intuitive guess but nothing more. However, LLIS purports best practice resources are peer-validated techniques, procedures, good ideas, or solutions that work and are solidly grounded upon actual experience in operations, training, and exercises.<sup>83</sup>

It should be noted the two documents that are referenced the most throughout the best practice document is the General Services Administration (GSA) COOP plan template and the Maryland State Agencies COOP Planning Manual. How often have GSA and Maryland agencies implemented their COOPs in an all hazard event in order to establish the best practice?

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<sup>82</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>83</sup> *Lessons Learned Information Sharing*, 2005, "Best Practice Resources," [www.LLIS.gov/](http://www.LLIS.gov/) (accessed July 26, 2006).

## **V. IDENTIFIED COMPILATION OF COOP ELEMENTS**

By analyzing the common, unique and LLIS best practice COOP elements a compilation of COOP elements is easily identified. The following is the identified compilation of COOP elements that should be used when developing a COOP.

### **A. PURPOSE/OBJECTIVE**

This section states the purpose or objective of the COOP plan. The section should clearly indicate that the plan seeks to maintain only critical services during an all hazard event. For example LLIS recommends: "This COOP provides guidance for, and facilitates the preparation of, site- or activity-specific plans and procedures that help ensure the safety of personnel at the alternate facility and allow organizational elements to continue essential operations in the event of an emergency or threat of an emergency. The planning guidance and the plans to be developed in accordance with it do not address day-to-day activities that enable an organization to conduct or safeguard routine operations."<sup>84</sup>

### **B. CONTINUITY OF GOVERNMENT**

Continuity of Government has been defined as the preservation, maintenance, or reconstitution of the civil government's ability to carry out its constitutional responsibilities. Continuity of government is concerned with the full range of governmental services including the three branches of government (judicial, legislative, and executive) and all levels of government (federal, state, and local).<sup>85</sup> Continuity of operations is a planning concept that focuses on government's ability to continue essential functions. While these two concepts can be delineated, they are functionally similar for COOP leadership during activation. In fact FEMA recognizes and encourages the consolidation of the COG/COOP concepts. LLIS recommends COG/COOP consolidation as a best practice.<sup>86</sup> A COG can be an element of the COOP or a stand

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<sup>84</sup> *Lessons Learned Information Sharing*, 2005, "Elements of A Continuity of Operations Plan," 1-6.

<sup>85</sup> *Lessons Learned Information Sharing*, 2005, "Continuity of Government (COG) and Continuity of Operations (COOP) Emergency Planning Guidance For a Consolidated Approach, Best Practice" [www.LLIS.gov/](http://www.LLIS.gov/) (accessed November 16, 2005).

<sup>86</sup> *Ibid.*

alone document. According to research, COG is not the purpose of the COOP however COG may be necessary for COOP leadership during activation.

### **C. APPLICABILITY AND SCOPE**

This section describes who and what the plan applies to, under what circumstances, and with what limitations. Example: “The provisions of this COOP are applicable to all [Insert agency name] personnel located at [Insert your agency address and include your zip code]. This plan is applicable to the full spectrum of man-made, natural, and technological emergencies and threats, with the exception of civil defense matters, which are addressed in other documentation.”<sup>87</sup>

### **D. AUTHORITIES AND REFERENCES**

The COOP plan must list state and local ordinances and statutes that affect government, emergency, and continuity planning, such as the state emergency management acts, local emergency operations plans, authorizing laws and executive decisions, etc. This section refers future readers to relevant plans and authorizing documents.<sup>88</sup>

### **E. COOP IMPLEMENTATION PLANS**

COOP Implementation Plans - agencies must prepare plans for implementing each element of the COOP plan throughout the period of disruption, from initial activation to final reconstitution.<sup>89</sup> COOP implementation can consist of: mitigation, preparedness, activation, devolution, relocation, response, recovery, reconstitution and termination of the COOP after reconstitution.

### **F. CLASSIFICATION OF EMERGENCIES AND COOP RESPONSES**

Many of the incidents requiring COOP implementation will be small in scale and occur frequently. Agencies should define the severity of emergencies and tailor the level of COOP plan implementation to meet their needs. The Maryland State Agencies COOP Planning Manual classifies emergencies in one of five categories, listed in the table below. Class /Level of Emergency I, disruption of up to 12 hours, with little effect on services or impact to essential functions or critical systems. No COOP activation required, depending on individual agency requirements. Class/Level of Emergency II,

<sup>87</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>88</sup> *Ibid.*

<sup>89</sup> *Ibid.*

disruption of 12 to 72 hours, with minor impact on essential functions. Class II involves a limited COOP activation dependent on individual agency requirements. Class/Level of Emergency III, disruption to one or two essential functions or to a vital system for no more than three days. A Class III may require movement of some personnel to an alternate work site or location in the primary facility for less than a week. Class/Level of Emergency IV, disruption to one or two essential functions or to the entire agency with potential of lasting for more than three days but less than fourteen days. A Class IV may require activation of orders of succession for some key personnel and may require movement of some personnel to an alternate work site or location in the primary facility for more than a week. Lastly, Class/Level of Emergency V Disruption to the entire agency with a potential for lasting at least fourteen days. A Class V requires activation of orders of succession for some key personnel and requires movement of many, if not all personnel, to an alternate work site for more than fourteen days.<sup>90</sup>

#### **G. DELEGATION OF AUTHORITY TO KEY PERSONNEL**

The authority to make key emergency decisions during a COOP event must be clear and compliant with state and local law. COOP plans must delineate and limit the authority that key COOP personnel will have during an event.

#### **H. ORDERS OF SUCCESSION FOR KEY PERSONNEL**

The loss of an agency or department head and others in key positions requires detailed orders of succession.<sup>91</sup>

#### **I. INCIDENT COMMAND SYSTEM**

The Incident Command System (ICS) and the National Incident Management System (NIMS) should be incorporated into COOP planning if possible. ICS describes the structure for command and control of the emergency and should be used when the COOP plan is activated.<sup>92</sup> While this collated to zero percent, ICS is an integral part of COOP leadership and should be included in a COOP. It is part of command and control.

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<sup>90</sup> Maryland Emergency Management Agency, *Maryland State Agencies: Preparing for an Emergency: Continuity of Operations (COOP) Planning for State Agencies*, 73.

<sup>91</sup> Ibid.

<sup>92</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

ICS is part of the EOP which COOP is a subset of however including ICS as a COOP element serves as a reminder for the person activating the COOP to make sure they are using ICS.

**J. IDENTIFICATION OF ESSENTIAL FUNCTIONS AND CRITICAL SERVICES**

Every COOP plan must delineate the essential functions, services, and activities carried out by the agency. The plan must also identify the personnel, facilities, and resources required for each function or service.<sup>93</sup>

**K. ALTERNATING OPERATING LOCATIONS AND FACILITIES, TO INCLUDE DRIVE-AWAY KITS**

The loss of a primary operating facility must be accounted for in a COOP plan. A plan should identify alternate facilities that enable the agency to re-establish critical services within 12 hours following the loss of the primary facility.<sup>94</sup> The alternate facility must be able to support critical mission systems.

While alternate facilities have been identified as a common COOP element, Pasco County, Florida included in their COOP a description of drive-away kits for their personnel to pack and go. The drive-away kit can consist of simple things like office supplies, small office equipment, copies of policies, plans and procedures. This simple concept is critical to making an alternate facility productive in a quick manner.

**L. INTEROPERABLE COMMUNICATIONS**

Communications systems should be able to support an agency's essential functions and internal/external communications during a COOP implementation. The communications component of a COOP plan should identify protective measures for critical communications systems, establish backup systems, and detail contact lists for key personnel.<sup>95</sup> There is the possibility that an incident may take away day-to-day communication systems and methods. If it becomes necessary to occupy the alternate

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<sup>93</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>94</sup> *Ibid.*

<sup>95</sup> *Lessons Learned Information Sharing*, 2005, "State And Local Continuity of Operations Planning: Communications," [www.LLIS.gov/](http://www.LLIS.gov/), (accessed November 16, 2005).

work location it will be necessary to ensure that communications systems are in place so that essential operations can continue unabated.<sup>96</sup>

#### **M. VITAL RECORDS, DATABASES AND SYSTEMS**

In order to maintain critical services to the public, government agencies must protect the vital records, documents, databases, and information systems that support the agency's essential functions. Agencies should create a records management system that protects vital documents and systems in an emergency.<sup>97</sup>

#### **N. FINANCIAL MANAGEMENT**

Another unique COOP element is financial management or financial administration. In any COOP activation, finances become a critical issue within a few hours as expendable resources are used up and labor costs mount. It makes sense to incorporate in the COOP guidelines on financial management during activation. Anymore, financing is occurring electronically. The loss of power occurs in many all hazard events. Having a plan in place to ensure purchasing and expenditures is critical. In fact, for FEMA reimbursement, exact documentation is required.

#### **O. SECURITY MEASURES FOR PERSONNEL, RECORDS, ALTERNATE FACILITIES AND OTHER GOVERNMENT RESOURCES**

A COOP element found in the research was security measures for personnel, records and alternate facilities or protection of government resources, facilities and personnel. For example, Pasco County, Florida uses the following language: "will be provided at the primary facility in a lock down to protect remaining infrastructure as applicable. Security will be provided at the alternate facility location to ensure staff safety and a secure means of ingress and egress. During COOP activation a County employee will control access to the primary and/or alternate facility." A security provision should be included in COOP development. Given that the COOP will be activated during an all hazard event which could easily mean the hazard poses an immediate threat to resources, facilities and personnel, ensuring security measures are taken will lend itself to the continuity of operation. It was surprising not to observe this element in more of the documents.

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<sup>96</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations (COOP) Plan Guidance for Local Governments*, 6.

<sup>97</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity Of Operations Plan," 1-6.



**P. STAFF/DEPENDENT CARE PLANS TO INCLUDE PERSONAL PREPAREDNESS, TRANSPORTATION, LODGING AND FOOD**

Staff/Dependent Care Plans - the protection of personnel and their families is of paramount importance. Employees are unlikely to work at an alternate location for an extended period of time if their family is in danger. COOP plans should work out programs for shelter of dependents during relocation at the alternate location or a nearby facility.<sup>98</sup> According to Pasco County, Florida, personnel should have “go-kits” (preparation kits) for utilization during activation with the following items available, if necessary:

- Changes of clothing;
- Daily medication requirements or medical equipment required;
- Personal hygiene items;
- Identification (driver’s license, county id badge, fuel card);
- Rain gear, boots, gloves, vests, and other PPE provided by the department;
- Enough food and water for up to three days;
- Sleeping gear;
- Cash;
- Appropriate arrangements for family issues;
- Contact Lists;
- Special dietary needs.<sup>99</sup>

Another critical concern in COOP personnel management is the loss, unavailability and relief of personnel during an all hazard event. Plans should be made for staff augmentation with the knowledge that mutual aid can be requested. Note, the timeliness of local, state and federal personnel will vary based on the breadth of the all hazard event.

Having personal needs met assists in personnel morale. Personal plans should include a plan for the employee’s family so the employee can be assured their family is being taken care of during an all hazard event. A lesson learned from New Orleans was

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<sup>98</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>99</sup> Pasco County Office of Emergency Management, *Pasco County Continuity of Operations Plan* (New Port Richey, FL: Pasco County, 2004), 20.

many of the first responders did not have personal plans for their family and became more concerned with taking care of their family rather than performing their job.<sup>100</sup>

**Q. PHOTOGRAPHS, CHARTS, ROSTERS AND MAPS**

Santa Rosa, Florida included photographs, charts, rosters and maps in their COOP. While the Santa Rosa COOP did not offer rationale for the inclusion of this element, it appears the element was included to provide personnel resources for COOP activation and response.<sup>101</sup>

**R. TESTS, TRAINING AND EXERCISE**

Familiarity with COOP plans and procedures can be fostered through tests, orientation, training, table-top exercises, and full-scale exercises. Agency employees must participate in training and exercises to familiarize themselves with emergency procedures and their role in COOP response.<sup>102</sup>

**S. PLAN MANAGEMENT/MAINTENANCE TO INCLUDE AFTER-ACTION REPORTS**

The organization structures of local governments/jurisdictions change over time, as do the functions assigned to specific agencies. To ensure that COOP plans always reflect current organization conditions, they should be reviewed as part of the training and exercise program. Changes in an agency's organization structure, function or mission, and service to clients should be made to the plan as they occur.<sup>103</sup>

A number of documents included after-action reports as part of their COOP maintenance element. It is critical that after-action reports become a part of a COOP for two very important reasons; the after-action report memorializes COOP effectiveness for historical/research purposes and it is a mechanism to learn what worked well and what did not. A revised COOP can result from after-action reports. For example, in 2004 Valusia County, Florida was hit by three hurricanes and their COOP played a vital role in the continued provision of government essential functions. The Valusia County after-action report identified a number of lessons learned or areas of improvement directly

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<sup>100</sup>Pasco County Office of Emergency Management, *Pasco County Continuity of Operations Plan* (New Port Richey, FL: Pasco County, 2004), 19-20.

<sup>101</sup> Santa Rosa, Florida, *Santa Rosa County Continuity of Operations Plan* 5-6.

<sup>102</sup> *Lessons Learned Information Sharing*, 2005, "Elements of a Continuity of Operations Plan," 1-6.

<sup>103</sup> Ohio Emergency Management Agency, *Ohio Continuity of Operations Guidance*, 12.

related to their local COOP as outlined in the literature review. Another example is New York City, after the August 14, 2003 power outage. The after action assessment resulted in COOP revision recommendations.

## **VI. IDENTIFIED COMPILATION OF COOP ELEMENTS IN TEMPLATE FORM**

Thus far, this thesis has examined seventeen COOP guidance documents in order to identify the COOP elements that should be contained in a COOP. A COOP template should contain the identified compilation of COOP elements. The utility of a COOP template is to give common structure and format for those who use them. The development of COOP elements need to reflect local ownership. The template presented in this thesis represents the identified compilation of COOP elements. It has been developed by utilizing the seventeen COOP guidance documents with a strong Florida and Ohio influence for structure and format.

### **RECOMMENDED TEMPLATE**

**A. PURPOSE AND OBJECTIVES**

**B. APPLICABILITY AND SCOPE**

**1. Classification of Emergencies Based on Vulnerability Assessment**

Vet with EOP.

**2. COOP Integration with Emergency Operations Plan (EOP)**

**C. ESSENTIAL FUNCTIONS**

Priority	Essential Functions
1	
2	
3	
4	
5	
6	

Table 4. Essential Functions

**D. AUTHORITIES AND REFERENCES**

**1. Federal**

**2. State**

**3. Local**

**4. COOP Source Documents**

**E. LEADERSHIP: COMMAND AND CONTROL**

**1. Continuity of Government (COG)**

Vet with EOP.

**2. Order of Succession**

Successors

Table 5. Order of Succession

**3. Delegation of Authority**

**4. Incident Command System**

Vet with EOP.

**F. COOP IMPLEMENTATION PLAN**

**1. Phase 1 – Activation and Relocation**

*a. Devolution*

The devolution section should address how an organization will identify and conduct its essential functions in the aftermath of a worst-case scenario, one in which the leadership is incapacitated. The organization should be prepared to transfer all of their essential functions and responsibilities to personnel at a different office or location.

*b. Decision Making Process, Initial Actions*

*c. Alternate Facility Identification*

List more than one option based on the ability to sustain Mission Critical Systems.

*d. Alert, Notification and Implementation Process*

*e. Hours of Operation*

**2. Phase 2 – Alternate Facility Operation**

*a. Mission Critical Systems*

System Name	Current Location	Other Locations

Table 6. Mission Critical Systems

*b. Vital Records and Databases*

Vital File, Record, or Database	Form of Record (e.g., hardcopy, electronic)	Pre-positioned at Alternate Facility	Hand Carried to Alternate Facility	Backed up at Third Location

Table 7. Vital Records and Databases

*c. Interoperable Communications*

- (1) Radio
- (2) Telecommunications
- (3) Information Technology

*d. Security*

- (1) Physical Facility
- (2) Access Control
- (3) Personnel
- (4) Communication

*e. Financial Management*

*f. Pre Positioned Resources*

*g. Drive Away Kits*

**3. Phase 3 – Reconstitution Procedures**

**G. PERSONNEL MANAGEMENT**

**1. Roster and Contact Information**

**2. Key Contingency Staff Responsibilities**

**3. Staff Augmentation, Mutual Aid**

**4. Transportation, Food and Lodging**

**5. Staff Personal Preparedness**

To include a personal preparation kit for COOP activation.

**6. Preparedness for Dependents of Staff**

To include a family plan in case of emergency and a family emergency plan kit.

## **H. PLAN MANAGEMENT**

- 1. Planning Responsibilities**
- 2. Test, Training and Exercise**
- 3. Multi Year Strategy**
- 4. After-Action Reports**
- 5. Remedial Action Plans**

## **I. SUPPORTING DOCUMENTS**

- 1. Operational Checklists**
- 2. Maps, Charts and Photographs**
- 3. Evacuation Routes**

Vet with EOP.

### **4. Appendices**

- a. Definitions*
- b. Media Plan*
- c. Vendor and Special Equipment List*
- d. Local EOP*
- e. Related COOPS*

To include departments within the local jurisdiction and mutual supporting partners.

## VII. BARRIERS AND ANSWERS TO COOP DEVELOPMENT

As mentioned previously, it is important for jurisdiction and agencies to “own” the COOP process by participating in the actual planning and development of the plan.<sup>104</sup> There are barriers to COOP development. Some of the barriers are lack of interest, lack of COOP development leadership, COOP topic too vast “lose sight of the forest through the trees,” an all hazard event prior to COOP development/implementation (pandemic flu or tornado) or shelving the finished COOP and not train on COOP activation (New Orleans Example).

Another common barrier is the assumption by local leaders that an all hazard event is a low probability therefore COOP development can wait or becomes a low priority. The problem that can occur is an all hazard event could occur in the local jurisdiction and without a COOP the local jurisdiction would not be prepared to continue its essential functions during the event. While an all hazard event for a local jurisdictions may be a low probability, having a developed COOP will have a high payoff should the event occur.

According to Eric R. Petersen who authored *Continuity of Operations (COOP) in the Executive Branch: Background and Issues for Congress*, executive branch COOP planning raise several questions related to underlying policy matters. Some of these questions include: what is the general level of preparedness to carry out COOP plans; which agencies have established effective COOP programs; have those plans been evaluated; by what organizations; because COOP plans are typically customized to preserve an agency’s unique operational needs, how can effective COOP planning be evaluated; what are the costs of establishing offsite facilities for use as emergency offices, alternate computing facilities, or securing office equipment and supplies in an emergency; and has FEMA been effective in supporting agencies as they develop their COOP plans?<sup>105</sup>

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<sup>104</sup> LLIS *State and Local Government Continuity of Operations Planning: Developing a Continuity of Operations Plan, Best Practice Website*, 1-4.

<sup>105</sup> Petersen, *Continuity of Operations (COOP) in the Executive Branch: Background and Issues for Congress*, 11.



COOP planners emphasize the importance of receiving support or endorsement for the process from elected officials, chief executives, and agency heads. When agency leaders are supportive of the process, COOP plans tend to be more complete and effective. When the chief elected official in a jurisdiction supports COOP planning, for example, overall participation is wider. Ideally, an executive order requiring cooperation with COOP planners will be the most effective way to ensure agency participation. Short of an executive order, a letter from the chief elected official can also be effective in eliciting support for COOP planning. Committed and strong leadership to the COOP development process must occur. Leadership must follow through on checking the progress of COOP development as well. Continuity planners should educate elected officials and chief executives on the importance of COOP planning in order to receive executive buy-in.<sup>106</sup>

COOP planners should develop an executive plan that identifies the goals of COOP planning and sets a path for achieving them. This executive plan serves as a roadmap for each organization that will develop COOP plans, who will serve on the key development teams, how will agency data be collected, etc.<sup>107</sup>

At the outset of COOP plan development, planners should create an orientation program to educate agencies on continuity concepts. Many agency employees, including department and agency heads, will know very little about the purpose, structure, and need for COOP planning. A program to familiarize these stakeholders with COOP can include group discussions, presentations, and handouts. Some COOP planners have noted the effectiveness of scenario-based training. COOP planners should present a common emergency situation and ask stakeholders how they would maintain essential functions. A more formal program for tests, training, and exercises is usually developed later in the planning process.<sup>108</sup>

Executive leadership coupled with an orientation program designed to educate on continuity concepts is imperative for COOP designers to include the compilation of COOP elements identified in this thesis and to be able to follow or at least have access to

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<sup>106</sup> *Lessons Learned Information Sharing*, 2005, "Best Practice," 1-4.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

COOP templates that have been implemented in other jurisdictions. The compilation of COOP elements and templates simply provide a good starting point.

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## VIII. PUBLIC POLICY IMPLICATION

There are a number of policy implications that can be recommended from COOP document analysis. The policy implications should be used by COOP developers and for further COOP research. This is not to suggest that this is an all inclusive list of policy implications, rather, it is a list that was developed for this particular body of work.

### A. UTILIZE IDENTIFIED COMPILATION OF COOP ELEMENTS IN COOP DEVELOPMENT

It is clear that COOP elements have been added by various states or local jurisdictions to FPC 65, which served as the base federal COOP document. For example, LLIS included ICS and sensitivity in its COOP elements best practice. In the report to Congress, security was added as an element. Authorities and references were added in other COOP guidance documents. Since 2002, other COOP elements were added as COOP development evolved. By analyzing the identified Common, Unique and Best Practice COOP Elements a COOP element compilation is easily identified. COOP elements should consist of:

- Purpose/Objective;
- Continuity of Government;
- Applicability and Scope;
- Authorities and References;
- COOP Implementation Plans and Procedures (mitigation, preparedness, devolution, response, recovery/reconstitution and termination);
- Classification of Emergencies and COOP Responses;
- Delegation of Authority to Key Personnel;
- Orders of Succession for Key Personnel;
- Incident Command System;
- Identification of Essential Functions and Critical Services;
- Alternate Operating Locations and Facilities, to include drive-away kits;
- Interoperable Communications;
- Vital Records, Databases, and Systems;
- Financial Management;

- Security Measures for Personnel, Records and Alternate Facilities or Protection of Government Resources;
- Staff/Dependent Care Plans (to include personal preparedness transportation, lodging and food);
- Photographs, Charts, Rosters and Maps;
- Tests, Training, and Exercise;
- Plan Management/Maintenance to include after-action reports.

This compilation of COOP elements can become part of the 2006 Nationwide Plan Review Phase 2 Report federal government's desired outcome for Goal #24: creation of a performance management framework that tracks performance against standard capabilities and tasks as reflected in synchronized plans across levels of government to include continuity of operations and government as a priority performance measure.<sup>109</sup>

**B. INCORPORATE THE COMPILATION OF COOP ELEMENTS INTO COOP TEMPLATES FOR STRUCTURE AND FORMAT**

As previously noted, COOP templates should not be relied on to heavily and COOP developers should "own" the process, making the COOP specific for the local jurisdiction. The two templates presented; Florida and the modified Ohio; offer the necessary structure and format and incorporate the majority of the compilation of COOP elements.

By relying too heavily on other COOP templates, some elements may not be included. For example, the Nationwide Plan Review Phase 2 Report specifically identifies NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs as a source document for a COOP template. Interestingly, NFPA 1600 does not list the COOP element of essential functions for development. The purpose for a COOP is to ensure the continuity of essential functions. While the NFPA 1600 does a good job with most other elements, reliance solely on this document could lead to missing the whole point of a COOP.

Florida's COOP template is the most comprehensive. The best part of the Florida COOP template is it has been the basis of local COOP development in Florida since 2002. Florida is known for its hurricane season and local entities have pragmatically

<sup>109</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 78.

exercised their COOPs in an all hazard event. In fact, Florida was rated by the DHS in 2006 as a “bright spot” receiving “Sufficient” – the highest rating given for states with response plans. Florida, accustomed to being whipped with hurricane winds, was the only state assessed as ready in all nine categories of catastrophe planning.<sup>110</sup> Florida’s COOP template has practical utility.

### **C. COOP AFTER-ACTION REPORTS**

An after-action report is a review process that details what happened, why it happened and how can it be done better. An AAR is about learning, not about finger pointing or even fixing a problem.<sup>111</sup> Conducting AAR’s should be conducted with the focus of improving a process, policy and/or procedure. AAR’s can be conducted as part of external and/or internal evaluations. Requiring an AAR in a COOP will assist in a COOP review focused on improving the COOP and with the goal of getting better at executing the COOP during an all hazard event. Many lessons are learned through COOP AARs as evidenced in this thesis. The example of New Orleans, New York and Volusia County provide valuable COOP direction. Furthermore, AAR’s will provide a valuable resource for COOP research as the AAR’s become available.

### **D. FUTURE RESEARCH NEEDED**

Since 2001, COOP guidance and development has progressed significantly. In fact, many of our federal and state homeland security strategies call for local COOP development with most stating it is a “good business practice.” The COOP guidance that has been offered centers around identified COOP elements and to a certain extent COOP templates containing the identified COOP elements. The list of COOP elements intuitively makes sense and many jurisdictions have built their COOPs upon them.

Almost all the COOP guidance available is government driven or authored. There is some guidance for private enterprise. What is lacking is academic COOP literature. During the research portion of this thesis, the lack of academic COOP literature was readily apparent from the onset. This is not to suggest that the COOP guidance is wrong or misdirected but how do we know that it is effective? The best practice identified by LLIS is strongly linked to federal and Maryland COOP guidance. How often has the

<sup>110</sup> Lara Jakes Jordan, "Cities Not Prepared for Disaster," *Associated Press*, June 16 2006, 1.

<sup>111</sup> *Wikipedia*, October 2005, "After-action Review," [http://www.en.wikipedia.org/wiki/After\\_Action\\_Review/](http://www.en.wikipedia.org/wiki/After_Action_Review/) (accessed July 15, 2006).

federal General Services Administration or Maryland used its COOPs in an all hazard event? Are there after action reports available? Were the COOPs effective. How did this become the best practice? These same questions can be asked of Florida which probably has the most long term experience in an all hazard event where a local COOP was utilized. Certainly Hurricanes Katrina and Rita provide opportunity for COOP research and the development of academic literature. California has listed six large all hazard events that have driven COOP development as well, but where is the research? Could it be that COOPs did not exist for these all hazard events or has the research just not been undertaken?

While the identified COOP elements appear to be intuitively sound, where is the qualitative or quantitative analysis that they are effective? Qualitatively or quantitatively identifying the effectiveness of COOP elements should be researched by academia. Failure for this research to occur means that COOP development will continue on an intuitive level. The best analogy is driving a car to a certain location. Intuitively the driver may turn left when right or going straight was correct. A road map and/or compass will keep the driver going in the right direction to reach the intended destination. Academic COOP research will serve as the map and/or compass.

The COOP foundation needs to be strengthened through research because the COOP purpose of local government ensuring essential functions during an all hazard event is critical to the devolution, response and recovery effort. Certainly, one cannot claim identifying an effective COOP is not important to our nation, state or local government.

From an academic perspective, focused research can improve our understanding of how to make lesson learning work well. Immediate research opportunities include more rigorous textual and content analysis of the after-action reports to validate our suggestive findings, to identify causal processes understanding of which may enhance learning, and to understand the differences in perspectives that emerge across different agencies that participate in the same incident. Researchers should bring the learning science and social psychology literature to bear on developing approaches the effective learning tailored to the challenges of preparedness and emergency response. In short,

helping organizations navigate the complexities of lessons learning should be informed by the substantial academic literature that has developed around this issue.<sup>112</sup>

To date, it is unclear why academia has not undertaken this research. With the advent of multiple homeland security academic programs at the college and university level, many students and professors will be considering research options. Qualitatively or quantitatively identifying effective COOPs and their elements should be undertaken. In addition, this research should be funded by DHS or a private enterprise.

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<sup>112</sup> Amy K. Donahue, "Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them," *Homeland Security Affairs: The Journal of the Naval Postgraduate School Center for Homeland Defense and Security* 2, no. 2 (2006): 37.



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## IX. CONCLUSION

A continuity of operations plan (COOP) facilitates the performance of essential functions during an emergency situation that disrupts normal operations, and it provides for the resumption of normal operations once the emergency has ended. National and state homeland security strategies call for local COOP development. In fact, the 2006 Nationwide Plan Review Phase 2 Report identifies COOP development as a state and local goal with a federal goal of providing COOP development support. Currently, COOP guidance is provided by various international, federal, state and local government documents and by collating these guidance documents a compilation of common, unique and best practice COOP elements are identified. The identified compilation of COOP element should be contained in a COOP and a COOP template is presented containing these elements. The recommended template is designed to provide structure and form however local government must independently develop and “own” their COOP by defining the compilation of COOP elements for their jurisdiction. By incorporating the same identified COOP elements, continuity of operation plans would be similar and fuse with other local continuity of operation plans within the state or region. It is recommended the identified compilation of COOP elements can become part of the 2006 Nationwide Plan Review Phase 2 Report federal government’s desired outcome for Goal #24: “creation of a performance management framework that tracks performance against standard capabilities and tasks as reflected in synchronized plans across levels of government to include continuity of operations and government as a priority performance measure.”<sup>113</sup>

It is important to note that an after action-report is a necessary component for COOP maintenance and can be used for COOP research. COOP guidance is being driven by government documents and lessons learned from government after-action reports while COOP development and academic research regarding the effectiveness for existing plans is non existent. Independent research and review is necessary to strengthen government’s direction in COOP development. Academia must pursue COOP research too qualitatively and quantitatively, dependent on the appropriate research method as

<sup>113</sup> Department of Homeland Security, *Nationwide Plan Review Phase 2 Report*, 78.

determined by the researcher, identify effective COOPs and their respective elements. With the advent of homeland security as an academic pursuit, opportunity for COOP research exists and should be federally funded due to the critical nature of an effective COOP for local government in ensuring the continuity of essential functions during an all hazard event.

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Norwalk, Ohio
4. Norwalk Police Department  
Norwalk, Ohio
5. Ohio Department of Public Safety  
Ohio Emergency Management Agency  
Columbus, Ohio
6. Huron County Emergency Management Agency  
Norwalk, Ohio