

Indianapolis Fire Department's Continuity Planning

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: Tim J. Utkin
Date: February 27, 2022

Abstract

The problem was that the Indianapolis Fire Department (IFD) had not created a documented continuity of operations plan (COOP) to ensure the continued delivery of key services during disasters and catastrophic events. The purpose of this research was to identify the key components to be included in a COOP, investigate how similar-sized departments have approached these topics, apply these ideas to IFD's organizational chart, and lay the framework for developing an IFD COOP. A descriptive research methodology was employed and was further supplemented by historical research. Research questions sought to identify: which public safety components should be included in a COOP; how similar-sized departments designed their COOPs; should succession planning be incorporated; what COOP-related programs does IFD already have in place? Guidance from the Federal Emergency Management Agency (FEMA), National Fire Protection Association, and Department of Homeland Security was considered. Ten metropolitan (metro) and ten smaller fire departments were contacted to request their COOP plans or interview their subject matter experts (SME). IFD's SMEs were interviewed to uncover any programs or methodologies that were already in place that could be used or tweaked to fit into a new IFD COOP. The results were that the COOP audits and interviews supplemented FEMA's guidance to inform a COOP methodology for IFD. The recommendation is to use the results of the research and COOP template to create an IFD COOP.

Keywords: COOP, continuity of operations, emergency management, succession planning

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Indianapolis Fire Department's Continuity Planning

The problem is that the Indianapolis Fire Department (IFD) has not created a documented continuity of operations plan (COOP) to ensure the continued delivery of critical services during disasters and catastrophic events. While a few programs have plans in place to handle short-term outages or a loss of resources, the department lacks a comprehensive plan to ensure its essential functions are maintained at all times. The guidance provided by the Federal Emergency Management Agency (FEMA) and presidential directives states that all government agencies (particularly public safety agencies) must have methodologies in place to carry on their most significant duties. The purpose of this research is to identify the key components to be included in a COOP, investigate how similar-sized departments have approached these topics, apply these ideas to IFD's organizational chart, and lay the framework for developing an IFD COOP.

This purpose will be achieved by using a descriptive research methodology, including elements of historical research. The first research question explored is, "Which public safety components should be included in a metro fire department's COOP?" A combination of the literature review regarding FEMA documents and other departments' COOPs, along with interviews of like-sized departments' subject matter experts (SME), will be used to explore this question. This question was chosen to help establish a proper scope for the project.

The second research question is, "How have similar-sized fire departments approached constructing their COOPs?" Again, an audit of other departments' COOPs and interviews with the SMEs intimately involved with their creation process will provide the answers to this question. FEMA's templates and guidance on COOP creation will also be considered. This question's significance goes beyond establishing what should be in the COOP and gets into how the policies for each area should be developed.

The third research question is, "Should succession planning play a role in COOP development and preparedness?" Opinions from other departments' SMEs will be gathered regarding the crossover between continuity planning and organizational cross-training. This question was chosen to determine if a department's efforts at succession planning are most often assumed, accounted for, or built into a COOP. In other words, is it assumed that all members would be able to fulfill any role, are members assigned to specific roles based on their expected expanded areas of expertise, or is there a need to directly incorporate succession planning into the COOP?

The final research question asked was, "What programs, if any, does IFD or the enterprise have in place that can be assimilated into the COOP?" This question will be approached by researching internal documents and interviewing internal SMEs. The reasoning behind this question is to ensure redundancy is avoided and to help leverage existing procedures with the agency and enterprise. While any internal programs need to be considered, it may be necessary to revise or eliminate those that do not align with superior or lateral programs.

Background and Significance

The past two years have tested the Indianapolis Fire Department in new and challenging ways. First, the COVID-19 virus forced the agency to reconsider almost every aspect of its daily service provision. Changes were made to standard operating procedures (SOP) concerning activities in the firehouse and the public. The response model was altered to remove engines and ladders from many low-acuity incidents. Staffing protocols were adjusted numerous times to ensure the public would receive quality care in the face of personnel shortages. Second, 2021 was a year of extreme volatility at the communications center. Labor issues, rampant turnover, and a complete agency overhaul meant that the call center was often operating under minimum

staffing requirements. These circumstances forced continuity of communications plans to be developed and, unfortunately, occasionally exercised. Finally, strained relationships with the Indianapolis Metropolitan Police Department (IMPD) resulted in conversations about alternative facilities for the Fire Investigations Section (FIS).

Through these trials, the need for a department COOP was evident. Conversations calling for a COOP began in 2018 when IFD was preparing for its first attempt at accreditation from the Commission for Fire Accreditation International. At the time, the prevailing opinion within the department was that a clear line of succession would suffice. When it was realized that the effort would be far more substantial, the appetite for creating a COOP waned. It was not until March 2020, facing an exponentially growing rash of COVID-positive cases among its members, that a serious commitment to the project was cemented. Unfortunately, the combination of the COVID-induced resource scarcity and working remotely stymied the project from its inception. The program did not truly begin moving forward until August 2021.

The department's goal is to ensure that the citizens of Indianapolis will continue to receive the highest level of public safety provision during and to follow a sustained emergency event. Service provision must remain intact, both short- and long-term, in the face of a loss of human and physical resources and communication and information technology (IT) systems. IFD must have internal and external redundancies for these resources and systems. Creating a COOP will allow the department to identify its mission essential functions (MEF) and its role in supporting the MEFs of its partner organizations. The COOP will also align the department's efforts with the Metropolitan Emergency Services Agency (MESA) and Indiana Task Force 1's (INTF-1) plans.

The other events brought to light the many nuances of implementing continuity planning. The staffing issues at the communications center forced the division to work through alternative staffing models. Dispatching protocols were streamlined, as were the hiring and promotion processes. System outages forced the division to find and utilize alternative facilities. Issues with IMPD led to FIS's offices being removed from a police facility. Finding a suitable alternative location proved difficult due to the section's many special considerations concerning investigation procedures and securing evidence. A new home was eventually found, but conversations regarding the section's needs are ongoing at the time of this writing. While each of these developments proved beneficial in the long run, the need for preplanning, protocols, and approved contracts became readily apparent.

To put things in perspective, the Indianapolis Fire Department serves the majority of Marion County and the consolidated city of Indianapolis. Covering roughly 292 square miles, the service area's population is just under 700,000 people (Indianapolis Fire Department [IFD], 2020). The department employs 1,249 career firefighters that provide the city with fire protection, non-transport emergency medical services (EMS), technical rescue capabilities, and hazardous materials (HAZMAT) mitigation (IFD, 2020). They operate from 43 engines, 22 ladders, five rescue squads, seven battalion command vehicles, three safety chief vehicles, two EMS duty officer vehicles, and a shift commander vehicle (IFD, 2020). The organization is responsible for 49 facilities across the service area, including maintenance shops, a health and wellness center, and a new training facility (IFD, 2019).

IFD is the largest fire department in Indiana regarding firefighters, population served, and the breadth of programs offered. The department enjoys positive working relationships with its neighboring and area departments with formal automatic or mutual aid agreements in place with

all but three (these have informal agreements). That said, if a significant event were to befall Indianapolis, no single partner (or even a combination of partners) could sustain service provision to both their primary service area and the city for an extended time. Therefore, IFD must have plans in place to maximize its ability to internally absorb both short- and long-term resource and system losses. Clear procedures must also be established when the need exceeds the department's capabilities.

This line of research is congruent with the curriculum taught in the National Fire Academy's R306 – Executive Analysis of Fire Service Operations in Emergency Management. Course topics include risk assessment, capability assessment, damage assessment, and multiagency coordination systems (United States Fire Administration [USFA], 2022a). Many exercises focused on responding to significant emergency events, including domestic terrorism and severe weather. This research seeks to apply the lessons learned in R306 with the guidance provided by FEMA and other industry experts to create an emergency management plan that allows for the continuity of operations in the face of a disaster. In turn, this research aligns with the U.S. Fire Administration's (USFA) 2014-2018 strategic goals, specifically "Goal 2: Promote response, local planning, and preparedness for all hazards," and "Goal 3: Enhance fire and emergency services' capabilities for response to and recovery from all hazards" (United States Fire Administration, 2014). This research also aligns with USFA's current strategic goals, particularly "Goal 1: Build a culture of preparedness in the fire and Emergency Medical Services," and "Goal 2: Ready the nation's fire and Emergency Medical Services for all hazards" (United States Fire Administration, 2019).

Literature Review

In order to build an effective COOP methodology, it is necessary to understand where the concept came from and how it has evolved over the years. This review begins by examining the origins of continuity planning and its significance to the fire service today. As the leading authority on the matter, current guidance from FEMA is then explored. The last section of the review assesses the opinions and insights of the National Fire Protection Association (NFPA) and fire service members from around the country.

History and Significance of Continuity Planning

Continuity planning can be explained as an organization's effort to define its response to a crisis event proactively (Federal Emergency Management Agency [FEMA], 2018a). The idea of a crisis or crisis event dates to antiquity, with Zamoum and Gorpe (2018) noting that Thucydides cited a "crisis" between Athens and Sparta as the catalyst for the Peloponnesian War in 431BC. While there are many definitions for "crisis," most share a few common characteristics. For example, crises are "rare, significant, high impact, ambiguous, urgent, and involve high stakes" (Zamoum & Gorpe, 2018). They present destabilizing moments when an organization's core mission, vision, and values are tested (Zamoum & Gorpe, 2018). They are times when preconceptions must be reweighed, and the opportunity for long-lasting, dramatic change presents itself (Herbane, 2010). In business, a company's foresight may mean the difference between grabbing more market share or closing its doors forever. In the realms of government and public safety, the best-case scenario is a swift return to normalcy, while the worst cases can be far more tragic than a bankruptcy.

The academic study of continuity planning began in earnest in the 1970s with the concept of crisis management theory (Herbane, 2010). Herbane (2018) defines crisis management as

“the organization and coordination of activities in preparation for, and response to, events that prevent or impede normal organizational operations (thereby threatening its most important goals).” From 1975 to the early 2000s, crisis management theory continued to expand as scholars and business leaders sought to identify the key factors that must be addressed when a crisis occurs (Zamoum & Gorpe, 2018). These factors included communication, image restoration, stakeholder relations, and contingency plans (Zamoum & Gorpe, 2018). The focus was initially on keeping the doors open and maintaining goodwill in the aftermath of an event.

By the late 1990s, businesses were beginning to place more importance on proactive measures to combat crises and disasters. Business continuity management (BCM) and business continuity planning (BCP) focused on building resilience, preventive measures, and expediting recovery times (Herbane, 2010). Often, resiliency measures were put in place in reaction to federal regulations and industry standards, particularly concerning technology (Herbane, 2010). Corporations were overly concerned with ensuring their data survived a catastrophic crash or widespread damage (Herbane, 2010).

The value of a broader approach to BCM/BCP was embraced in the 1990s as senior leaders began to understand that crises also significantly impact their human capital (Herbane, 2010). Technological redundancies were maintained (especially in preparation for the infamous Y2K bug), but enterprise-wide resiliency practices also came into vogue (Herbane, 2010). This change in philosophy was cemented in the wake of the September 11, 2001, terrorist attacks (Herbane, 2010). Corporations began taking deeper dives, drafting complex contingency plans at every level of their organizations (Herbane, 2010). BCPs accounted for all assets and resources (human, financial, and physical) (Herbane, 2010). One SME discussed how his bank

had a roughly 200-page BCP for his ten-room branch, including where to find flashlights and batteries (Jack O'Tain, personal communication, February 10, 2022).

BCM practices were beginning to find their way to the public sector by the end of the 1980s. The concept of continuity of government (COG) had been around for years (Conaty, 2010), but it began to take a different form when mixed with BCM and crisis management theories. Rather than just an order of succession, modern COG planning accounted for delivering essential governmental functions and services (Weyand, 2018). Naturally, these conversations and concerns eventually made their way to the fire service.

The fire service was founded on responding to crises. Most of these events are small in scope (if not in impact to those affected), but firefighters have been among the first on scene for some of the country's darkest days. Today's disasters range from natural hazards (earthquakes, floods, tornadoes) to human-made hazards (terrorism and technological) (Weyand, 2018). They result in disruptions to the power and communications systems, damage to transportation systems, and various health and environmental issues (Weyand, 2018). Their impacts are not trivial. For example, since 1980, there have been over 310 weather and climate disasters in the U.S. with total damages exceeding \$1 billion (including consumer price index adjustment to 2021), with 2021 having the second-most events and the third-highest damage total (National Oceanic and Atmospheric Administration [NOAA], 2022). Specifically germane to IFD, Indiana has hosted seven of the ten costliest tornadoes and thunderstorms and four of the ten most expensive winter storms (Insurance Information Institute [III], 2022).

Aside from the financial impact, these events can be incredibly complex. The aftermath of a tornado can present fires, collapse concerns, hazardous materials incidents, blocked streets, and widespread power outages (Centers for Disease Control and Prevention, 2022). While all of

these issues require a response from the fire department, the department and its members may also be among the victims (Fire Apparatus & Emergency Equipment, 2021). Many departments could quickly become overwhelmed by the scope of work required and the lack of available resources. This possibility is a significant reason to create a COOP.

A COOP lays out the plan a department will use to protect its people, property, and the environment when an incident's needs exceed the department's capabilities (Weyand, 2018). It is incumbent on a department to create a COOP that first looks to overcome a loss of resources through redeployment or adjustments to its service model (Drewery, 2019). Additionally, Gill (2012) defines a COOP as "a multi-level, multi-departmental response that ensures any agency, regardless whether it be local, state, or federal, can provide essential services using interoperability systems, memorandums of understanding, and mutual aid agreements." This definition highlights the need to work with and through an agency's partners to ensure redundancy in its service provision. It also highlights the importance that a COOP is congruent with the plans of the department's partner agencies and those above it in the federal chain of command to ensure that all entities efficiently serve the public (Hendricks, 2016). In these ways, a COOP provides avenues to maintain service provision during the initial onset and extended aftermath of a disaster.

Few events test resiliency like a hurricane. Hurricane Hugo inflicted over \$7 billion worth of damage in 1989 (National Hurricane Center, 2022) and exposed inefficiencies in the approaches of FEMA, state, and local resources when dealing with a massive disaster (Federal Insurance Administration, 1992). Partially in response, the NFPA Standards Council formed the Disaster Management Committee in 1991 to consider the best practices a fire department could institute before, during, and after a disaster (Mahr, 2020). Their findings would lead to NFPA

1600: *Standard on Continuity, Emergency, and Crisis Management* (National Fire Protection Association [NFPA], 2019). First published in 1995, NFPA 1600 (2019) is currently recognized by the National Commission on Terrorist Attacks Upon the United States as the country's National Preparedness Standard. The NFPA (2022) website cites the 2019 edition's scope as "a common set of criteria for all-hazards disaster/emergency management and business continuity programs."

The subsequent development in contingency planning came through a presidential directive. In 2007, President George W. Bush signed the *National Security Presidential Directive-51/Homeland Security Directive-20* (Weyand, 2018). The directive called for a comprehensive national continuity policy that would ensure MEFs would continue and guarantee COG in the face of a national emergency (Weyand, 2018). Later that year, the *National Continuity Policy Implementation Plan* was released (Weyand, 2018). It outlined 75 critical actions for maintaining essential functions and governance and included plans designed to help all levels of government collaborate (Weyand, 2018). In 2013, FEMA released the *Continuity Guidance Circular (CGC) 1*, *CGC 2*, and a continuity plan template (Weyand, 2018). These documents provided valuable tools for fire departments to build robust COOPs. These events, further aided by the Commission on Fire Accreditation International's (CFAI) push for continuity planning (Center for Public Safety Excellence, 2020), have helped build awareness of the need for COOPs and guided their creation.

FEMA Guidance

Multiple researchers have come to the same conclusion: continuity planning at the local level works best when it follows the outlines provided at the federal level (Johnson, 2015; Hendricks, 2016; Weyand, 2018). FEMA, recognizing this truth, has spent the last five years

updating, clarifying, and supplementing its guidance on continuity planning. They have produced a robust library of information packets, teaching tools, templates, and assessment guidance to walk any non-federal entity from introducing to implementing and improving a COOP. These resources include continuity guidance circulars, threat and hazard identification and risk assessment (THIRA) guides, business process and impact analyses guides, and a national response framework.

Federal Continuity Directive 1

The U.S. Department of Homeland Security's (USDHS) *Federal Continuity Directive 1 (FCD-1)* (2017a) establishes the federal executive branch's national continuity program and requirements. It also serves as a valuable tool for framing a fire department's COOP. The document begins by stating its purpose is to fulfill Presidential Policy Directive-40 that requires a national continuity policy to be designed and implemented (U.S. Department of Homeland Security [USDHS], 2017a). It establishes the national essential functions (NEF) (Figure 1), roles and responsibilities, coordination groups and meetings, and the continuity capability elements (CCE) (Figure 2) (USDHS, 2017a). It validates the need for a readiness reporting system (RRS), mandates that organizations utilize the RRS, and establishes the four phases of continuity operations (USDHS, 2017a). The document closes with a call for federal coordination with non-federal and non-governmental agencies, maintaining operations security, and providing a point of contact for further guidance (USDHS, 2017a). *FCD-1* establishes the continuity program's bones and then adds further depth through a collection of annexes. Annexes A-K contain individual explanations of each continuity CCE (USDHS, 2017a). Annex L further explains the four phases of continuity operations (USDHS, 2017a).

Figure 1

The National Essential Functions (NEFs)



Note. This figure was taken from the Continuity Guidance Circular (FEMA, 2018a).

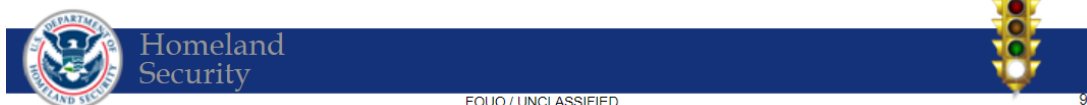
Figure 2

Key Elements of Any COOP Plan

Key Elements of any COOP Plan

10 elements of a basic, viable continuity capability:

- Mission Essential Functions
- Orders of Succession
- Delegations of Authority
- Continuity Facilities
- Continuity Communications
- Vital Records Management
- Human Capital
- Test, Training, & Exercise (TT&E)
- Devolution of Control and Direction
- Reconstitution



Note. The first CCE, program management, plans, and procedures is missing (Rode, 2016).

Annex A's guidance on program management applies to any-sized organization.

Continuity capability is measured by how essential functions are performed (USDHS, 2017a).

Essential function performance requires the coordination of leadership, staff, facilities, and communications (USDHS, 2017a). Coordination relies on proper planning, which begins with performing a risk and vulnerability assessment (USDHS, 2017a). After establishing a baseline, benchmarks are set, and a gap analysis is performed (USDHS, 2017a). Improvement plans are then created to close the performance gaps (USDHS, 2017a). These plans are then formalized, implemented, tested, and trained upon (USDHS, 2017a). Periodically (or after execution), the plans and procedures are assessed and adjusted as needed (USDHS, 2017a). Once the performance gap has been closed, new benchmarks are set, or attention is moved to an area of graver concern (USDHS, 2017a). This cycle serves to align resources and produce continuous improvement.

Annex B describes three types of essential functions (USDHS, 2017a). MEFs are integral to accomplishing an agency's mission or purpose (USDHS, 2017a). These tend to be unique to each entity (USDHS, 2017a). Primary mission essential functions (PMEF) are ongoing actions that directly support the NEFs (USDHS, 2017a). NEFs are the actions that must be maintained to ensure order and the continuance of government (USDHS, 2017a). In terms of priority, NEFs trump all-else, and PMEFs trump MEFs (USDHS, 2017a). All essential functions are reviewed biennially, documented in a continuity plan, and assessed through a business process analysis (BPA) (USDHS, 2017a).

Annexes C and D cover succession orders and authority delegations (USDHS, 2017a). Orders of succession must clearly establish who will fill in for the head of the agency in an emergency (USDHS, 2017a). A minimum of three positions shall be listed in the order of ascension (USDHS, 2017a). The delegations of authority define when authorities should be transferred, the specific authorities being transferred, and their limitations (USDHS, 2017a).

Delegations of authority also establish when authority can be divided, re-delegated, and rescinded (USDHS, 2017a).

Annexes F-G deal with logistics (USDHS, 2017a). Communications and information systems must be redundant with fully operating alternatives at the ready (USDHS, 2017a). Essential records management identifies which records need to be created, maintained, and archived (USDHS, 2017a). It identifies how and where these records will be gathered and stored while ensuring they are still reasonably accessible (USDHS, 2017a). Identifying and securing alternative locations is reliant on establishing essential functions (USDHS, 2017a). With these established, locales can be identified to serve as alternative facilities and locations (USDHS, 2017a). Once identified, facility upgrades should be completed, and contracts for use should be secured (USDHS, 2017a).

Annex H is concerned with human resources (USDHS, 2017a). Organizations need to prepare their workforces to conduct and support essential functions during an emergency (USDHS, 2017a). Workers need to be trained on what to do to maintain their readiness (USDHS, 2017a). Plans for the utilization and accounting of all personnel, especially those with remits outside of the organization's essential function, need to be created and disseminated (USDHS, 2017a). Communication methods concerning the state of the organization, pay, and benefits during a crisis event also need to be proactively addressed (USDHS, 2017a).

Devolution is discussed in Annex I (USDHS, 2017a). Devolution is "the capability to transfer statutory authority and responsibility from an organization's primary operating staff and facilities to other designated staff and alternate locations to sustain essential function" (USDHS, 2017a). The partners receiving the authority and responsibility must stand up operations in less than 12 hours (USDHS, 2017a). The devolution description should state the conditions to begin

the process and define when the transferred authorities and responsibilities are returned (USDHS, 2017a). Potential candidates should be identified and trained, and the program should be exercised at least biennially (USDHS, 2017a).

Reconstitution (Annex J) describes how and when the organization will permanently adjust to key personnel and capability losses by adjusting to a new norm (USDHS, 2017a). Position vacancies are to be formally filled and programs adapted to meet the organization's new capabilities (USDHS, 2017a). The reconstitution plan should identify when the transition from crisis management to regular business should occur and who is responsible for beginning the process (USDHS, 2017a).

Annex K provides a variety of approaches for testing, training, and exercising the continuity program (USDHS, 2017a). Testing refers to ensuring all equipment is accessible and in working order (USDHS, 2017a). Training helps personnel become familiar with the processes and equipment utilized in the continuity plan (USDHS, 2017a). Exercises are when testing and training come together in a low-risk environment (USDHS, 2017a). Exercises provide an excellent opportunity to vet procedures and smooth out any operational or communication issues with external agencies (USDHS, 2017a).

The four phases of continuity implementation (readiness and preparedness, activation, continuity operations, and reconstitution) are detailed in Annex L (USDHS, 2017a). Readiness and preparedness (pre-incident) refer to how well leadership has prepared an organization to respond to a crisis (USDHS, 2017a). Personnel need to be aware of the plan, trained in its execution, and have access to needed resources (USDHS, 2017a). Alternative locations need to be operation-ready, and the communications, IT, and RSS systems must be functional (USDHS, 2017a). The activation phase covers the first 12 hours after an event (USDHS, 2017a). It is

during this time that: the organization must be alerted; alternate sites activated as needed; devolution occurs if needed; and the accounting of members and leadership occurs (USDHS, 2017a). The continuity phase involves accounting for all other members within five days, performing essential functions, working with partner organizations, and preparing to transition to the reconstitution phase (USDHS, 2017a). Leadership must assess the new state of the organization during the reconstitution phase, oversee facility repairs, and notify the authority having jurisdiction of their assessments (USDHS, 2017a). Communication with the agency's membership is also vital (USDHS, 2017a).

Federal Continuity Directive 2

To further explain the process of identifying essential functions, FEMA released the *Homeland Security Federal Continuity Directive 2 (FCD-2)* (USDHS, 2017b). This directive walks organizations through performing a risk and vulnerability assessment, identifying mission essential functions, performing business process and impact analyses, and documenting their findings (USDHS, 2017b). The document also defines NEFs and PMEFs (USDHS, 2017b).

FCD-2 goes into slightly greater detail regarding performing a risk analysis (USDHS, 2017b). Risk management teams are encouraged to consider risks “posed by all conditions, environmental or manmade, that have the potential to cause injury, illness, or death; damage to or loss of equipment, infrastructure services, or property; or causing functional degradation” (USDHS, 2017b). Organizations are challenged to define, identify, assess, develop alternatives, prioritize, evaluate, and defend their identified risks (USDHS, 2017b). Critical infrastructure and agency interdependency should also be considered (USDHS, 2017b). BPA and business impact analysis (BIA) should identify essential functions and resources; determine dependencies and

interdependencies; and account for threat and vulnerability assessments (USDHS, 2017b). Finally, MEFs should receive a full review biennially (USDHS, 2017b).

Annex B covers identifying MEFs from non-essential functions and essential supporting activities (ESA) (USDHS, 2017b). Step one is to identify every organizational function the agency performs. In step two, the organization must identify which functions will be essential during and after a crisis event (USDHS, 2017b). Step three is to present the list of mission essential functions to the leadership for their approval (USDHS, 2017b).

Perhaps the most significant value in *FCD-2* comes from Annexes C and D. Annex C explores how to perform a BPA (USDHS, 2017b). The process begins by identifying the products, services, and information produced by a MEF (USDHS, 2017b). Step two is to identify the inputs needed to perform the MEF (USDHS, 2017b). Next, dependencies and interdependencies are examined (USDHS, 2017b). Steps four and five involve naming the leaders and staff members responsible for its execution (USDHS, 2017b). The following two steps consider the need for alternative communications, information systems, or locations (USDHS, 2017b). Step eight doubles back to ensure all necessary resources have been accounted for and consider budgeting (USDHS, 2017b). Finally, the entire process and its components are recorded (USDHS, 2017b).

The results of the BPA are then used to perform a BIA. In the first step, the scope and context of the analysis are determined (USDHS, 2017b). This determination is based on how crucial the MEF is to the organization, its partners, and the public (USDHS, 2017b). Step two calls for the assembly of SMEs and leadership (USDHS, 2017b). The group then engages in step three to estimate the impact if the agency cannot provide the MEF or if service provision is of low quality (USDHS, 2017b). The group then performs step four, where maximum tolerable

downtimes and recovery target times are established (USDHS, 2017b). The BIA process ends with complete documentation of the group's findings (USDHS, 2017b). This documentation is used to develop datasheets for the MEFs and prioritize them (USDHS, 2017b). Annex G provides forms for departments to use during this process (USDHS, 2017b).

Other FEMA Documents

The *CGC* (FEMA, 2018a) is a much more user-friendly yet in-depth explanation of the federal government's approach to continuity planning. Replete with color pictures and a writing style similar to what one would expect in a newsstand publication, the *CGC* is considerably more inviting than *FCD-1* and *FCD-2*. The document opens with an overview of continuity planning, why it is crucial, and how FEMA addresses this need (FEMA, 2018a). The following section provides information on building a solid planning team, surveying the area's current continuity efforts, and gathering information to create a plan (FEMA, 2018a). Chapter 2 covers identifying and prioritizing essential functions through conducting a risk assessment, BPA, and BIA (FEMA, 2018a). The *CGC* takes a different approach than the one presented in *FCD-2*, opting for less structure and being more open-ended. The rest of the chapter covers the other CCEs in easy-to-follow and terms. Chapter 3 offers insights into maintaining capabilities through testing, training, exercises, and regular revision in an easily digestible format that supplements *FCD-1* nicely.

The *CGC* is perfect for people who are new to the topic but want to be involved. It provides considerably more information than the *Community Risk Toolkit* (FEMA, 2017) but is not as technically dense as the *FCDs* (USDHS, 2017a, 2017b). While there are checklists throughout the document (particularly the complete program, high-level checklist found in Appendix 4), it is not written as an actual "playbook" for one to follow (FEMA, 2018b). That

said, one would likely find value in revisiting the *CGC* from time to time to review its unique questions and anecdotes.

The *Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) Guide* contains a detailed process for assessing an organization's risks and vulnerabilities (USDHS, 2018). It identifies a three-step process: identify threats and hazards, give them context, and establish capability targets (USDHS, 2018). Threats are broken into three categories: natural, technological (accidental), and human-made (intentional) (USDHS, 2018). The guide points to sources where information on hazards can be gathered and provides systems for assessing their risk levels (USDHS, 2018). Examples are also provided to help users provide context and estimate impacts (USDHS, 2018). The THIRA section closes out with examples of the standardized target language and how to use impacts, objectives, and time metrics to create capability targets (USDHS, 2018). The document expands upon the *FCD-2*'s risk analysis section and is relatively straightforward.

The *2019 National Threat and Hazard Identification and Risk Assessment (THIRA)* (FEMA, 2019a) takes the approach detailed in the 2018 *THIRA* guide (USDHS, 2018) and applies it to the U.S. Nine scenarios were applied across six threats and hazards (FEMA, 2019a). The threats and hazards included plausible concurrent operations, earthquakes, hurricanes, pandemics, space weather, and flooding (FEMA, 2019a). This document provides the logic behind the decisions made at each step and shows examples of visually presenting the data (FEMA, 2019a). There would be value, albeit limited, in using this report to compare and guide a department while producing its own THIRA.

The latest *Comprehensive Preparedness Guide (CPG) 101* (FEMA, 2020b) is still in draft form. The purpose of the document is to provide "guidelines on developing emergency

operations plans (EOP)" (FEMA, 2020b). As such, it is the playbook an experienced planner should follow. The first 36 pages are dedicated to thoroughly explaining the planning process and its nuances (FEMA, 2020b). From there, it jumps into the specifics of creating a detailed, functional EOP (FEMA, 2020b). The focus is on creating structure and redundancies rather than responding to specific threats (FEMA, 2020b). That said, the document closes with annexes dedicated to each of the most common types of hazards and threads found in the U.S. (FEMA, 2020b). This document reads like a college textbook and is not suited for frontline use; however, it is an essential resource for the seasoned planner looking to create a comprehensive EOP designed to address the results of a local THIRA.

The *Continuity Plan Template and Instructions* (FEMA, 2018b) walks the reader step-by-step through creating a continuity plan. Once the research has been completed, planners can reference the guidance provided in the instructions to enter their information into the precast forms (FEMA, 2018b). The forms cover each of the CCEs and provide a variety of valuable appendices and tables (FEMA, 2018b). This tool should prove to be highly useful for organizing the findings of the planning process and providing a standard approach to creating COOPs.

The *Continuity Risk Toolkit* (FEMA, 2017b) was published between *FCD-1* and *FCD-2*. This 18-page document provides a very brief introduction to the concept of risk and risks analysis before diving into a series of checklists to aid in continuity planning (FEMA, 2017b). It walks the reader through how to define their concept of operations and work through the analysis phases (FEMA, 2017b). A brief description of performing a BPA and essential function analysis is followed by a very brief lesson on assessing their findings (FEMA, 2017b). The document ends with suggestions on enhancing the results by considering mitigation strategies and proper documentation (FEMA, 2017b).

The *Continuity Risk Toolkit* would be a helpful tool for those who are unfamiliar with the process and will not be asked to design or develop the organization's plan. The information it contains provides just enough knowledge that a neophyte could follow along or recognize where the task they are performing falls in the overall process. The toolkit could also be helpful to the team leader that is thoroughly steeped in the process as a quick checkoff list.

FEMA's *National Response Framework* (2019c) (Federal Emergency Management Agency, 2019c) explains their comprehensive approach to disaster and crisis mitigation. Knowledge of their foundational components, operational coordination, response roles and responsibilities, federal authorities, operational planning approaches, and supporting resources is essential for all non-federal government entities (FEMA, 2019c). Plans developed at the state and local level must align with those at the federal level, or they will be disregarded when an incident reaches a certain magnitude.

FEMA also provides guidance on testing, training, and exercising plans through its *Homeland Security Exercise and Evaluation Program (HSEEP)* (FEMA, 2020a). For nearly 80 pages, techniques, examples, and assessment metrics are shared, covering various continuity planning aspects (FEMA, 2020a). As testing, training, and exercising are considered CCEs, this resource will be invaluable towards measuring a COOPs robustness.

FEMA's (2019b) *Business Process Analysis and Business Impact Analysis User Guide* was also reviewed. Aside from the form templates in the annexes, most of its contents can be found in the *THIRA* (USDHS, 2018) guide or *CGC* (FEMA, 2018). As such, the existence of this document is noted, but it provides little utility to this literature review.

Finally, while not literature per se, FEMA offers the National Continuity Programs. The Continuity Excellence Series offers two certificate programs: Level I Professional Continuity

Practitioner and Level II Master Continuity Practitioner (FEMA 2021). Nine of the courses required for Level I are available through independent study courses on the FEMA Emergency Management Institute, with the rest requiring in-person sessions (FEMA, 2021). These courses further supplement the guidance provided in the documents mentioned above, particularly in the case of the in-person classes, which provide the opportunity to network with peers and ask questions directly to SMEs.

Opinions and Input from Other Subject Matter Experts

As FEMA's guidance is naturally broad, an effort was made to seek guidance specifically tailored to fire departments. The literature research found suggestions from several professional associations and SMEs within the fire service. The professional associations included the NFPA, International Association of Emergency Managers (IAEM), and International Association of Fire Chiefs (IAFC). The National Fire Academy's (NFA) National Emergency Training Center Library (NETCL) provided online access to scholarly articles written on continuity planning. Many of these articles were produced as applied research projects for the Executive Fire Officer Program. They provided real-world insight into the approaches and scopes departments have recently taken when producing their COOPs.

Guidance from Professional Associations

NFPA 1600 (2019) establishes "a common set of criteria for all-hazards disaster/emergency management and business continuity programs." Aligned closely with FDC-1 and 2 (USDHS, 2017a, 2017b), the document provides a framework for creating, implementing, and evaluating COOPs at the local level (NFPA, 2019). It covers program management, planning, implementation, execution, training and education, exercises and tests, and program improvement (NFPA, 2019). A few key takeaways are to name a program leader,

create a COOP team, and design a strategic implementation plan (NFPA, 2019). These suggestions were echoed by other ESMs (Ledford, 2009; Mackey, 2017; Mohr, 2020; Voigt, 2012). The call to account for supply-chain disruptions (NFPA, 2019) is especially salient at the writing of this paper.

The IAEM and the American National Standards Institute, International City Managers Association, National Association of Counties, and the National Emergency Management Association have created the Emergency Management Accreditation Program (EMAP). This group published a document similar to NFPA 1600 specifically covering EMS entitled the *Emergency Management Standard* (EMAP, 2019). Similar to FEMA's guidance, the EMAP identifies five phases of continuity planning: identification (discovering a need); notification (clearly communicating the need to all stakeholders); creation (determining the who, what, where, and when of the plan); revision (exercising and improving the plan); adoption (gaining formal approval) (EMAP, 2019). It calls for the prioritization of prevention and mitigation strategies that use standardized processes (EMAP, 2019). A valuable takeaway from this document is the value of assessing the public's faith in the government and its institutions' abilities to meet their needs.

The IAFC's *An Insurance Planning Guide for Emergency Service Organizations: Preparing for When Bad Things Happen...To Us* (International Association of Fire Chiefs [IAFC], 2011) serves as the organization's definitive take on the subject of continuity planning. It differs from the other sources discussed here in that it explores insurance considerations to a far greater degree (IAFC, 2011). The coverage of risk management and continuity planning in the main document is sparse, mainly pointing to NFPA 1600 (2019) and FEMA documents

(IAFC, 2011). The first two appendices offer some value, as they provide a list of potential threats to fire departments and a quick cheat sheet for covering COOP basics (IAFC, 2011).

Guidance from Fire and Emergency Medical Services Professionals

According to Barishansky (2014), COOP planning must begin with examining a department's mission, vision, and values, an opinion that is echoed by the EMAP (2019). The next step is to define a purpose statement for the COOP creation process (Barishansky, 2014). Together, these statements guide efforts towards discerning essential functions and provide litmus tests for future decisions. The first of these decisions is whom to appoint to the continuity team and to be the project leader. NFPA 1600 (2019), Mackey (2017), and Mohr (2020) are all in agreement that centralized leadership is crucial to managing and facilitating the ongoing interdepartmental collaboration that occurs during the process.

With the leadership team in place and guideposts established, Voigt (2012) echoes NFPA 1600 (2019) in calling for creating a strategic plan that includes process timelines, clearly defined exercises, and formal outreach efforts to all stakeholders. Hendricks (2016) also reiterates FEMA (2017a) and NFPA (2019) guidance in stating that the plan must focus on mitigation, avoidance, and transference to be successful. Johnson's (2015) suggestion to consider prevention is also well-founded.

As described in NFPA 1600 (2019), the first order of business for the committee after establishing a plan is to determine the MEFs. The literature suggests several different groups to be leveraged for insights and information. Warnock (2019) contends that few people will be better suited to provide perspective than the company officers and frontline chiefs. Feinman (2020) says that the public should have the opportunity to share their views and opinions. Hendricks (2016) echoes this sentiment and adds that partner agencies are integral to the

planning process. Warnock (2019) and Mackey (2017) point out how important it is for the key leadership positions within and above the organization to be involved and aware of continuity planning efforts. While an idea or arrangement may make sense on the surface, there may be political reasons why it would not be feasible or supported (Mackey, 2017).

Feinman (2020) wrote that the quality of interdepartmental communication is directly correlated to the quality of the program outcomes and that overlooking interdependencies is a recipe for failure. Drewery's (2019) research seems to confirm this thought when finding that interdepartmental communication was the main complexity with which departments must contend. Therefore, all potential partners must be identified during the earliest stages of the process (Mohr, 2020), and a comprehensive contact list should be created (Barishansky, 2014). From here, relationships must be sustained and cultivated beyond the creation and early implementation phases (Feiman, 2020). Feinman (2020) says that a concentrated effort to maintain and strengthen these relationships needs to remain a focus even during a crisis.

Drewery (2019) discussed the leading flaws identified by FEMA's leading to failure. A lack of imagination stops departments from envisioning the different events or situations that may befall them (Drewery, 2019). They may also have difficulty envisioning how their operations would be forced to change in a crisis (Drewery, 2019). Failing to do due diligence can lead to faulty assumptions; conversely, trying to overanalyze or account for every possibility can lead to feelings of bewilderment (Drewery, 2019). Fear of change or losing control leads people to be protective or closed to new ideas (Drewery, 2019). Complacency, lack of awareness, and ignoring warning signs are all faults that result from a lack of quality leadership (Drewery, 2019). Barishansky (2014) adds that some departments or divisions may be receptive to the idea of continuity planning but are in survival mode or lack the appropriate funding.

Drewery (2019) provides further guidance on determining MEFs. He writes that the focus should always be on the essential functions (actions that must continue) and not the people or position responsible for them (Drewery, 2019). Egos and status quo operations must be left out of the equation. He also states that people should realize that MEFs may change over time and are not set in stone (Drewery, 2019). Reismann (2011) makes an important point when she urges departments to consider the essential functions their employees will need to have provided to ensure they can continue to work effectively. Departments may need to find ways to provide food, shelter, and medical care for their members and their families (Feinman, 2020).

Several other interesting thoughts were found in the existing literature. Drewery (2019) and Johnson (2015) reminded their readers that the COOP could not possibly cover every possible incident; however, the process of creating the document and building a response template should prove to be an invaluable tool when quick decisions must be made (Drewery 2019, Johnson 2015). Testing, training, and exercising the COOP not only provide an opportunity to learn the plan but also serves to “unteach” normal behaviors that may prove detrimental during a crisis (Feinman, 2020). Warnock (2019) reminds his readers of the importance of post-check reports and how his research found they were underutilized. Finally, Mackey (2017) suggested building meaningful assessment data into the process as early as possible.

Summary of Findings

The Zamoum and Gorpe (2018) definition of crisis established that these events will be problematic. First, they are high impact (affecting many people), urgent (needing an immediate response), and high stakes (threatening to life safety) (Zamoum & Gorpe, 2018). First responders must be prepared and functioning at peak performance levels. However, the fact that

these events are rare and ambiguous further complicates the matter (Zamoum & Gorpe, 2018). Proper training is a challenge as there are many situations for which to prepare, and the skills are rarely reinforced through day-to-day operations. Also, the rarity of these events can lead to complacency and a "That will never happen here!" attitude. These conditions further validate the need to create, implement, and exercise a COOP for the safety of both the community and department members.

Reviewing weather disaster data further verified the need for proactive planning. With over seven weather and climate-related disasters occurring on average each year, each resulting in over \$1 billion worth of damage (NOAA, 2022), it is not a matter of if but when and where the next event will occur. Indiana has proven to be at an increased risk of tornadoes, thunderstorms, and winter storms, with 11 of the costliest events in the past 40 years (III, 2022). The likelihood of having at least one event in Indianapolis each year is high, and chances are even higher that IFD's resources will be sent to help another community at some point. While these events cannot be prevented, the proper education, planning, and training accounted for in a COOP could provide for substantially better outcomes.

Zamoum and Gorpe's (2018) discussed how one of the most pressing concerns for businesses during crisis management was maintaining their public image. The author had taken for granted that the public would maintain its largely favorable feelings towards the fire department. Anecdotally, it seems that disasters tend to solidify those public feelings as people appreciate the rescue and rebuilding efforts in which first responders engage. However, this notion was challenged when reviewing the EMAP (2019) EMS plan. It stated that public confidence in the government and emergency services should be considered during the initial risk assessment and throughout operations (EMAP, 2019). As a result of these thoughts, the

importance of proactive, community-based planning and training and ongoing communication during an event has been significantly increased.

Herbane's (2010) research brought home the importance of protecting and utilizing data during a crisis. It is easy to be distracted by disaster response's rescue and mitigation operations components, but the rest of the FLOP line (finance, logistics, operations, and planning) allows those operations to continue beyond the initial response. The guidance from FEMA, NFPA, and the IAEM all state the importance of building redundancies within and around IT. Planning, logistics, and finance can better support operations' goals and objectives by protecting historical data and maintaining communications and systems access. When these systems are no longer functional, a department needs to have hard-copy procedures in place and the necessary resources available.

Gill (2012), among others, discussed the importance of interdepartmental collaboration. While each document reviewed spoke to the importance of this cooperation, few have addressed the steps between developing and exercising the plans. The guidance from Hendricks (2016) to contractually solidify these agreements is well-taken. Explicitly stating expectations removes further uncertainty from what are likely already ambiguous circumstances.

The information contained in the reviewed FEMA documents will provide the backbone from which IFD's COOP will be created. As stated earlier, nesting a department's COOP inside the federal guidelines is a best practice (Hendricks, 2016; Johnson, 2015; Weyand, 2018). Additionally, FEMA provides the guidance and the tools necessary to create a robust and wide-ranging COOP. Reviewing these documents exposed the author to the concepts of BPA and BIA. A greater understanding of the continuity CCEs and four phases of continuity planning was gained and used to inform the research's recommendations.

The *FCD-1* (USDHS, 2017a) and the *CGC* (FEMA, 2018a) explain the basic format of a sound continuity plan. The *CPG 101* (FEMA, 2020b) goes into specifics about starting from scratch and ending with an all-encompassing plan. Of these three documents, the *CPG 101* (FEMA, 2020b) has had the most significant impact in that its utility far exceeds the others. The *FCD-2* (USDHS, 2017b), *THIRA* (USDHS, 2018), and *Continuity Risk Toolkits* (FEMA, 2017) were all viewed as supplemental material, providing further clarity and useful charts. The *Continuity Plan Template and Instructions* (FEMA, 2018b) were included as the defacto suggestion for designing IFD's initial COOP. The *National Response Framework* (FEMA, 2019) helped clarify IFD's role in the federal plan.

The resources written by professional associations also illuminated some key points to consider. NFPA 1600 (2019) briefly discussed the importance of supply chain disruptions during a crisis. First, this is pertinent due to the current global supply chain issues, but second, it is also a call to pause when considering logistics. Planners need to consider availability, deliverability, and price fluctuations for the items deemed necessary for MEFs. The IAFC's (2011) list of threats facing the fire service was added to the list of support documents when considering MEFs. EMAP (2019) and Johnson (2015) both drove home the importance of including prevention in IFD's COOP.

Other takeaways from the SMEs included the importance of establishing a continuity team and team leader (Barishansky, 2014; Mackey, 2017; Mohr, 2020). It became clear that a best practice is to pursue a wide array of feedback during the planning process: public (Feinman, 2020), company officers (Warnock, 2019), partner agencies (Hendricks, 2016), and political leaders (Warnock, 2019; Mackey, 2017). It is imperative to bring in partner agencies as early as possible (Drewery, 2019) and work to strengthen those relationships (Feinman, 2020).

Feinman's (2020) thought on using training to "unlearn" and Warnock's (2019) advice to utilize post-check reports were both heeded. Finally, Reissman's (2011) advice to ensure the needs of the department members were being met resonated to the point of inclusion in the recommendations.

Procedures

The research questions sought to discern: Which public safety components should be included in a metro fire department's COOP?; How do metro departments approach creating their COOPs?; Does succession planning play a role in COOP development and preparedness?; and Does IFD have any existing programs that could be assimilated into its COOP? The same research methods were utilized to answer the first three questions, but the last question was handled similarly but slightly differently.

Descriptive research was the primary methodology used with some historical research elements as supplements. Convenience sampling was applied to gain the research data. Convenience sampling is a non-probability sampling method where "the researcher announces the study and participants self-select" (Stratton, 2021). Stratton (2021) states that it is an effective sampling method when applying qualitative research to a specific population, although its results may not be transferrable beyond the self-selected sample. In the case of this research, convenience sampling allowed for the researcher to easily elicit data from a group of fire service executives and future executives from across the country. The qualitative nature of this research and its intent lent itself to this approach. Additionally, many of the documents (particular COOPs) and exchanges were private due to confidentiality issues. With guidance from the NFA evaluator, only source-approved names and documents have been shared in the body of this paper and its appendices. The others are available upon request.

A mixture of interviews, requests, and internet searches were utilized to answer the first three research questions. First, the literature review findings, particularly those concerning FEMA and NFPA guidance, were used to establish the norm as to what should be included in a metropolitan fire department's COOP. Various mediums were employed to solicit direct feedback from fire service professionals. In each case, the author started the conversation by explaining the purpose of his research and that he was looking for examples of COOPs. He also stated that he had a few questions regarding how the COOP was created. Depending on the response, emails, direct messages, message board posts, text messages, and phone calls were exchanged.

GroupMe (<http://groupme.com>) is primarily a mobile phone text messaging application that allows users to communicate regardless of their phone's operating system. The researcher leveraged a group whose members had attended an Executive Fire Officer Program class together in August 2021 to request COOP documents. The initial request was made on January 31, 2022, and a follow-up was posted on February 20, 2022 (see Appendix A). Responding members were asked to send their COOPs via email and answer the following questions: Does the COOP drive succession planning?; Who developed the COOP, and what was the process?; Did they identify any unusual essential functions? When necessary, interviews were held over the phone to gain further clarification.

The researcher used the professional networking site LinkedIn (<http://www.linkedin.com>) to solicit more information on COOPs and succession planning. The original post was placed on the site on February 15, 2022 (see Appendix B). The post asked to speak to metro fire departments about their continuity planning efforts. Replies and direct messages over the next three days continued the conversation.

Several research-related text messages were sent out. The researcher utilized the Center for Public Safety's (CPSE) Accreditation Manager SharePoint site to reference the list of accreditation managers from metro departments and their contact information. Tony Bavota (Toronto), Chaz Browning (Winston-Salem), and Dwayne Chruch (Greensboro) were contacted, asking if they would be willing to talk about continuity planning (see Appendix C). Text messages were also sent to Dave Dauer and Kyle Fekete (Louisville) (see Appendix C), both of which the researcher had worked with through CFAI. A follow-up email was necessitated in two of these interactions, as well as one phone call.

The researcher sent four direct (unsolicited) emails. The first email was to Scott Gray (Grand Rapids), the co-facilitator of the Michigan-Ohio-Indiana-Kentucky CPSE Consortium (see Appendix D). He was asked to answer the questions mentioned earlier and provide his department's COOP. In his reply, he connected the researcher with Allison Farole, the emergency management administrator for Grand Rapids.

Three other "cold" emails were sent to Leonard Chan (Houston), David Farnum (Charlotte), and Phillip Battles (Columbus, OH) (see Appendix E). They, too, were asked to answer the questions and provide their department's COOP. An additional email contact, Brian Schenking, was made when the researcher replied to a request to fill out an ARP survey. Schenking was only asked to answer the interview questions.

Three internet tools were used to search for COOPs and succession planning information. First, the IFCA's KnowledgeNet message board was searched for the key topics "COOP" (IAFC, 2022a) and "continuity" (IAFC, 2022b). The results were examined for pertinent notes, and appropriate documents were downloaded for review. Direct messages were sent to Brian

Federmann and Frank Blackley (see Appendix F) as they had volunteered to share their COOP documents in the past.

The NETCL search engine was used to search for “continuity” (USFA, 2022b) and “succession” (USFA, 2022c). Over 50 results were reviewed in search of current fire department succession or COOP plans. Google’s (<http://www.google.com>) search engine was also utilized. Searches were performed for “fire service COOP,” “fire service continuity,” “fire department continuity,” “fire department COOP,” and “COOP and succession planning fire.” Again, the resulting websites were examined for valuable information, with insightful documents being downloaded and reviewed. Once all of the COOPs, supporting documents, and answers were collected, they were analyzed and used to answer the first three research questions.

While the results of the above efforts were sufficient to answer the first three research questions, the fourth question (What programs, if any, does IFD or the enterprise have in place that can be assimilated into the COOP?) required a series of interviews. The first interview was with Jack O’Tain of the Office of Audit and Performance program director and occurred on February 2, 2022 (J. O’Tain, personal communication, February 2, 2022). The second interview was with Jacob Spence of the Metropolitan Emergency Services Agency’s Director of Emergency Management on February 15, 2022 (J. Spence, personal Communication, February 15, 2022). The third and fourth interviews were with IFD’s Deputy Chief of Operations, Jerry Martin (J. Martin, personal communication, February 23, 2022), and Assistant Chief, Michael White (M. White, personal communication, February 23, 2022), respectively, on February 23, 2022. Matt Henss, the Deputy Chief of Community Risk Reduction (M. Henss, personal communication, February 23, 2022), and Kevan Crawley, the Deputy Chief of Logistics (K. Crawley, personal communication, February 23, 2022), were also interviewed on February 23,

2022. The interviews with members of IFD happened in their offices and ranged from 5-20 minutes in length. Each interview opened with the researcher asking if the interviewee knew any existing programs that could be folded into a new COOP. From there, the conversation was free-flowing.

Limitations

Convenience sampling depends on the motivation of those available to self-select. There were likely several people that could have provided interesting insights and information that elected not to participate. Personal bias, history, or feelings towards the researcher may also have impacted who replied to the requests. Overall, the participation rate appeared to be very poor, but that requires deeper consideration. As discussed later in this section, it is impossible to know how many people were exposed to the research or how many contacted people possessed knowledge on the topic and chose not to participate compared to how many had nothing to offer.

One of the most significant limitations encountered was ensuring the study remained replicable due to the volume of research taken place through personal communications. Further complicating the issue was that some of the information shared was confidential. The researcher had to ask the participants for permission to share their correspondence and documents. When it came to answering the interview questions, all but two people agreed to share their answers and identities. However, none of the COOPs were to be posted for public consumption (they remain available by request with permission from the author and the source). After discussions with the NFA evaluator, the researcher created appendices to cover as many interactions as possible.

With that established, there were several other limitations to the effectiveness of these research techniques. Only a few people in the GroupMe group worked for departments with COOPs. This result should have been expected as research has estimated that roughly half of all

departments do not have a COOP (Drewery, 2019; Johnson, 2015; Warnock, 2019; Weyand, 2018), and of those that do, only close to 40 percent of employees know they exist (Voigt, 2012). Considering that the GroupMe group consists of future executive fire officers from departments progressive enough to send their people to eight weeks of on-campus education in Emmitsburg, it is still somewhat surprising. Another limitation to the use of GroupMe was that it was a closed group, limited to 47 members. Interactions in the group chat have been sporadic and often concentrated in bursts where upwards of 30 messages are exchanged in an afternoon, followed by a week of silence. People may not have taken the time to review messages 20-30 spots back in the thread. This behavior further limits the effectiveness of this method of research.

The lack of content on the IAFC KnowledgeNet message board was also surprising. While there were seven different topics covering COOPs and continuity planning, most had only one or two replies (none had more than five). The lack of posts may be due to the fragmented nature of the message board. Each IAFC section has a separate board, and members are only automatically made aware of the posts in the sections to which they are subscribed (IAFC, 2020). While there is no differentiation between sections when using the search feature, this gating of information would speak to the lack of interactions on each post. Simply put, people are unaware of the posts from other sections unless they actively pursue the topic via the search function. Activity levels on the board are inconsistent, consistently averaging around four new posts a day. People may not be checking the board regularly because it is easy to get caught up quickly.

LinkedIn presents several limitations. First, there is no way to guarantee that everyone sees a post in a person's network. Connections could be infrequent users of the application, or the algorithm used in presenting posts could not have presented the post to the right people at the

right time. The researcher's audience was limited to his network and those of others who shared or reacted to a post. Many of the researcher's 578 connections on LinkedIn do not work for a fire department, and of those that do, only a small proportion are involved with continuity planning. LinkedIn did not provide a fertile ground to derive answers to these research questions.

"Cold" texting can be seen as rude and aggressive. The contact information that was used was pulled from a database that may be out of date and was not directly related to continuity planning. Those contacted had no prior knowledge of the researcher's identity or any perceived benefit to providing the requested information. "Cold" phone calls partnered with a text may have garnered more cooperation. The same could be said for the sending of emails requesting COOPs. A key difference was that each email recipient had previously worked with the researcher or been asked by a peer to field an email. Still, emails and texts can lack context and warmth, decreasing the motivation to spend time thoroughly answering random questions from a stranger.

The use of Google and the NETCL also provided several limitations. Finding the ideal terms to use was difficult, and it is possible that better results could have been generated using different search strings. In the NETCL, the documents provided mainly were scholarly. There were plenty of examples of research papers on succession and continuity planning, but none were explicitly the current plans of a modern organization. Google produced thousands of results, but they were mainly a mix of commercial websites, non-fire service government resources, and periodical articles. Google's search algorithm may not be geared towards highlighting the types of documents the researcher was seeking. The researcher vetted at least 60 search results for each topic but may have found additional resources with more diligence.

Confidentiality was another limitation. This limiting factor affected the research in two ways. First, a few people volunteered to share their COOPs but later found that they could not share the document outside their department. Second, the classified nature of the plans meant that they were rarely available through the web or posted on department websites. Google searches only produced two fire department COOPS, although quite a few county COOPs were available. While a few documents were shared through the IAFC KnowledgeNet, most people were more willing to email the plans directly rather than post them for all to use.

As has been briefly alluded to, there is no guarantee that the messages posted on the internet forums, group message threads, and social media were being seen by the appropriate parties. In the latter two cases, the author's network limited the people exposed to the requests. Posting on the American Planning Association website may have yielded better results.

Results

Many of the results provided in this section were the result of personal communications in emails, text messages, message board posts, messaging application posts, and phone calls. Some of these interactions were confidential, as were many of the shared documents. With guidance from his NFA evaluator, the researcher has provided as much information as possible in the appendices. Direct links can be found in the references to all outward-facing documents and sources utilized.

The GroupMe efforts obtained two sets of COOPs and interview answers from anonymous metro departments (one in California and one in Virginia) (see Appendix A). Additional sets of COOPs and interview answers were provided by Steve Roberson (Newton Fire/EMS (KS)) and Michael McMahon (Hampton Fire Department (NH)) (both non-metro departments). Chad Sheppard and Brian Wolfe of Gwinnett County Fire and Emergency

Services (GA) and Anthony Valdez of South Metro Fire Rescue (CO) provided general information about their departments' COOPs and answered the interview questions. An additional member had volunteered to provide a COOP and answer questions but did not.

It is worth noting that one of the COOPs obtained through GroupMe was not from a group member (see Appendix A). Ty Lunde (group member) provided a peer's contact information from a neighboring metro department in California. The researcher contacted the peer via text and then interviewed him over the phone. He provided answers to the questions regarding who wrote the COOP, how it was written, and if succession planning played a role. He also provided a digital copy of the plan to the researcher via email. As this plan was confidential, the peer and his department's identifications are available upon request and permission of the provider. The other three COOPs obtained through GroupMe are available upon request and permission of the provider.

The LinkedIn efforts resulted in one COOP, one performance evaluation document, and one set of answers to the questions above (see Appendix B). These were sent by Nic Cunningham of Lincoln Fire and Rescue (NE) (a metro department). The researcher's original post received eight "likes" and two comments, resulted in three direct message conversations, and was shared twice. The shares received a combined total of four comments. None of the comments resulted in information exchanges, and the only exchanges resulting from the direct messages were the ones listed earlier.

The text messages resulted in one COOP. After initially being contacted via text, Dauer produced Toledo Fire Department's (metro department) COOP and answered the questions in an approximately ten-minute interview (see Appendix C). Bavota scheduled a meeting to discuss continuity planning, but it did not occur before the research period ended. Fekete attempted to

gain permission to share his Louisville's COOP but could not to supply it before the research period ended; Browning stated his department did not have a COOP; Church never responded to the text (see Appendix C).

The emails resulted in collecting Houston Fire Department's (TX) COOP and interview answers from Chan (metro department) and Farole (Grand Rapids (see Appendices D and E). Farole also provided documents detailing Grand Rapids Fire Department's (non-metro department) COOP creation process. The general contents of their COOP could be gleaned from these documents. Brian Schenking of Summit Fire and EMS Authority (CO) (non-metro) provided answers to the interview questions (see Appendix H). He had "cold" emailed the researcher and agreed to exchange research information quid pro quo. An additional email was sent to David Farnum of Charlotte Fire Department, but the reply was received was after the research period had ended (see Appendix E).

Utilizing the IFCA KnowledgeNet website (<https://knowledge.iafc.org/home>) to search for posts containing "COOP" resulted in obtaining a full COOP from Dallas Fire and Rescue (TX) (City of Dallas, 2018) (metro department) and pandemic-related COOPs from the Harrisonburg Fire Department (PA) (2020) and Spokane Valley Fire Department (WA) (2020) (both non-metro departments). The Dallas COOP (2018) and an administrative directive were initially posted on June 7, 2019, by Jim Padgett (IAFC, 2022a). The documents provided enough detail to identify how they were created and maintained. Ed Comeau had suggested to the researcher on April 23, 2020 (IAFC, 2022a), that the other two COOPs could be found on the Vision 20/20 Coronavirus Shared Resource Library website (Vision 20/20 Project, 2022). Additionally, thoughts on proper COOP development were shared by John Vidovich of the Los Angeles Fire Department (CA) (metro department) on April 23, 2020, and a helpful template

posted by Steven Gorsky of the Darien-Woodridge Fire Protection District (CT) (non-metro) on March 29, 2017 (IAFC, 2022a). No additional valuable results were returned when searching for the term “continuity.” The direct messages to Brian Federmann and Frank Blackley did not return any usable information, although Blackley replied stating that he had asked his former department to forward the researcher their COOP (it had not arrived at the time of this writing) (see Appendix F).

Utilizing the Google search platform with the keywords “fire service COOP” returned COOPs for the non-metro Escambia County Fire-Rescue (FL) (2007) and San Ramon Valley Fire Protection District (CA) (2019). The Escambia County (Escambia County Fire-Rescue, 2007) document was dated 2007, but a review of the department’s website (Escambia County, 2021) suggested it is still in use. A search with the keywords “fire service continuity” returned the Massachusetts Fire District 14 COOP (non-metro department) (2020). Searches with the keywords “fire department COOP” and “fire department continuity” failed to identify any new sources of interest. A search with the keywords “fire department succession planning” returned documents and slideshows germane to fire department succession planning but not concerning continuity planning. The same was true for searches with the keywords “fire service succession planning” and “COOP and succession planning.”

All told, continuity planning information was gathered from 20 departments. The original goal was to contact at least ten metro departments; Ten participated, and four others were contacted with no results. The following states were represented in this research:

California, Colorado, Florida, Georgia, Illinois, Kansas, Massachusetts, Michigan, Nebraska, New Hampshire, Ohio, Pennsylvania, Texas, Virginia, Washington, and Ontario, Canada. A

total of 14 COOP documents and information on the contents of 2 additional plans (8 metro and 8 non-metro) were collected.

Which public safety components should be included in a metropolitan fire department's COOP?

While the literature review provided invaluable guidance in this area, the following information is strictly the new research results. The contents of each COOP were evaluated to see if they included the CCEs provided in NFPA 1600 (2019) and *FCD-I* (2017a). Special attention was paid to capturing public safety or CCEs that were outliers. Also, MEFs were noted and compared across plans.

Table 1 displays the findings concerning the primary CCEs. The majority of the metro departments had included most of the CCEs. Every COOP addressed program management, essential functions, orders of succession, essential records management, and human resources. The three elements receiving the least attention were devolution, reconstitution, and testing, training, and exercising. The non-metro departments showed similar results (it should be noted that there were two primarily pandemic-focused plans in this group, Harrisonburg (2020) and Spokane Valley (2020)). Each plan accounted for program management in some form, and most plans accounted for essential functions, orders of succession, communication and information systems, essential records management, and human resources. Less attention was paid to delegations of authority, reconstitution, and testing, training, and exercises. None of the non-metro documents used the term “devolution.”

Table 1

Continuity Capability Elements as Found in Metro and Non-Metro COOPs

CC Element	Metro	Non-Metro
Program Management, Plans, and Procedures	8	8
Essential Functions	7	5
Orders of Succession	7	5
Delegations of Authority	6	2
Communications and Information Systems	6	6
Essential Records Management	8	5
Alternate Locations	6	4
Human Resources	8	6
Devolution	4	0
Reconstitution	5	2
Test, Training, and Exercises	4	3
Total COOPs Considered	8	8

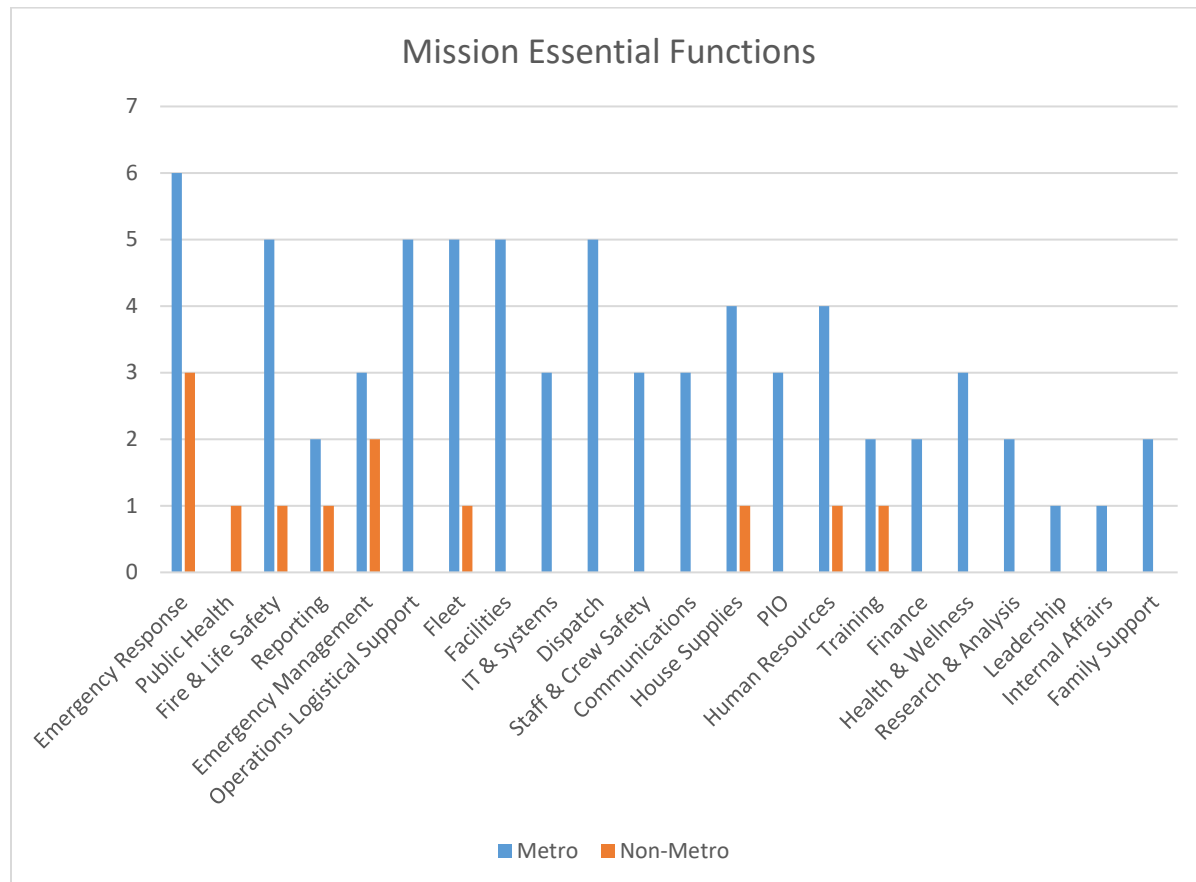
Note. The COOPs from one metro department, Harrisonburg (non-metro), and Spokane Valley (non-metro) were primarily focused on pandemic response.

There were only nine lists of MEFs to compare (six metro and three non-metro). Wolfe, Valdez, and Farole stated that their departments utilized MEFs in their COOPs but did not provide the lists (see Appendix A). Newton's COOP lists essential functions without the proper heading (see Appendix A). The results of this research can be found in Figure 3. All six metro departments listed fire suppression/ EMS, technical rescue, and hazardous materials remediation as MEFs. Five of the six departments included fire and life safety activities (inspections, investigations, and public education), maintaining and supplying operational equipment and

supplies, fleet and facility maintenance, and dispatch. Station supplies and human resources were mentioned in four of the six plans. The three non-metro departments cited fire, EMS, technical rescue, and hazardous materials response as MEFs. Emergency management was the only other MEF to be mentioned more than once by these departments.

Figure 3

Mission Essential Functions



Note. The above chart references six metropolitan departments' and three non-metro departments' COOPs.

Through this review, other items of note were identified that might be of interest when creating a COOP. They did not always fall under the headings of MEFs or CCEs but would still qualify as either public safety components or supporting features necessary to ensure the highest level of service for internal and external customers. For example, many departments opened

their documents by covering its purpose, scope, and their mission, vision, and values. Escambia County (2007), Spokane Valley (2020), and Toledo (see Appendix C), among others, mentioned objectives and assumptions. Another design choice shared by Virginia and Lincoln was to design plans based on a loss of facilities, workforce, or crucial systems (see Appendices A and B).

Several departments included down-staffing plans, with Lincoln producing maps of the new response areas for each step (see Appendix B). San Ramon Valley (2019), Spokane Valley (2020), Houston, and Toledo all speak to taking care of the health and safety of their members' families (see Appendices C and E). San Ramon Valley (2019) and Toledo also cover the need for EAP services to be reanimated as soon as possible. South Metro considers the safety of its staff and crew as a MEF (see Appendix A). Escambia County (2007) creates checklists for the activations of all alternative sites to help ensure the process goes smoothly. Grand Rapids utilizes a Gantt chart during its creation process (see Appendix D). Newton explicitly considers the implications of providing mutual aid for an extended period (see Appendix A). Houston considers re-establishing its internal affairs office as a top MEF (see Appendix E). Dallas (2018) has documented plans for each MEF covering each applicable CCE. Finally, San Ramon Valley (2019) contemplates the implications of the Americans with Disabilities Act of 1990 (ADA) (U.S. Department of Justice [DOJ], 2017) and discusses standing up an animal response team.

The final piece of research on this topic came from the IAFC KnowledgeNet message boards. Vidovich (2020) states that departments should identify MEFs based on their department's mission. Mission essential personnel should also be identified, and their roles, responsibilities, and work tasks must be defined (Vidovich, 2020). He called to create succession and delegation plans and perform a risk and vulnerability assessment (Vidovich,

2020). He recommended identifying essential equipment and systems (Vidovich, 2020). He suggested identifying and solidifying contracts for the use of alternative locations and stressed the importance of practicing alternative modes of communication (Vidovich, 2020). In addition, Gorsky provided useful forms for tracking the daily, weekly, monthly, quarterly, and annual tasks necessary to stay prepared for each MEF (Gorsky, 2017).

How have similar-sized fire departments approached constructing their COOPs?

Seven metro departments (Lincoln, Toledo, Gwinnett County, South Metro, Houston, California and Virginia) provided answers to how their COOPs were created (see Appendices A, B, C, and E). Dallas's (2018) COOP provided enough information for the researcher to understand its creation and maintenance procedures. Of the non-metro departments, Newton, Summit, and Grand Rapids provided descriptions of their processes (see Appendices A, D, and E).

Cunningham was unaware when Lincoln's first COOP came into existence, but he said that he (the accreditation manager) and the fire chief work together regularly to keep the document updated (see Appendix B). It is formally reviewed biennially by the fire chief, COOP team, logistics chief, EMS chief, and battalion chiefs. Dauer did not speak to the document's creation but did say that it was updated regularly by the COOP team (see Appendix C). The command staff review Toledo's COOP biennially and by the special operations division and homeland security annually.

Sheppard said that Gwinnett County's COOP was created by the operations division and assistant chief of business services (see Appendix A). It is reviewed by the continuous improvement section monthly. Wolfe stated that the Gwinnett County EOC reviews the plan every six months.

Valdez said that the emergency manager created South Metro's COOP in collaboration with the department's executive staff and an ad hoc committee (see Appendix A). Dallas's (2018) COOP stated that the fire chief and assistant fire chief created the document. It is reviewed by these positions biennially and by the Office of Emergency Management annually.

Houston, California, and Virginia utilize a fire chief-appointed COOP team and leader to create their document (see Appendices A and E). Houston has its command staff review the document annually. Virginia has the fire chief aid in the review process. California assigned the task to the operations chief, who reviews the document with the fire chief every six months.

Roberson stated Newton had inherited its current COOP from a previous chief who may have created it as an Executive Fire Officer Program applied research project (see Appendix A). The plan was revised in 2020 by the fire chief. Schenking said that Summit's COOP was designed by a firefighter who used the experience as his master's capstone topic (see Appendix E). He followed the templates provided by FEMA and received approval from the fire chief. No other information was provided on how often these plans are reviewed.

Farole provided several details on Grand Rapid's (non-metro) COOP creation process (see Appendix D). When asked who is responsible for producing the fire department's portion of the COOP and how were they chosen, she replied:

The Office of Emergency Management has taken the lead to coordinate all departments to work on developing department portions of the City's COOP. To do this, I asked Department Heads to identify a primary and secondary liaison to work on this 9-month long project. For the Fire Department, the Chief and Asst. Chief identified themselves as those liaisons. All liaisons participated in 4 workshops to dive into elements of the

COOP. I have attached my timeline to provide some context on this process. (A. Farole, personal communication, February 17, 2022)

She also provided copies of local government COOP worksheets, resource requirements sheets, dependencies and interdependency worksheets, an introduction to COOPs document, three workshop PowerPoint presentations, and a COOP Gantt chart.

Should succession planning play a role in COOP development and preparedness?

Eight departments answered the question clearly (Lincoln, Grand Rapids, Newton, Toledo, Gwinnett County, Summit, Louisville Fire Department, and Houston) (see Appendices A, B, C, D, and E). Only Grand Rapids and Gwinnett County answered in the affirmative (see Appendices A and D). Examples of succession planning in the fire service were discovered through the aforementioned Google searches, but none were explicitly tied to continuity efforts.

Sheppard said that Gwinnett County does a better job of succession planning and training with its suppression force than its administration (see Appendix A). He did state that the department's monthly planning meetings allow the administration to learn about the roles and responsibilities of each position. When asked if the Grand Rapids COOP calls for ongoing succession planning and cross-training outside of significant events, Farole responded:

Each department has been tasked with developing a succession plan for each position that is key to performing the identified mission essential functions. All elements of the COOP are tied back to the identified Mission Essential Functions of each department. (A. Farole, personal communication, February 22, 2022) (see Appendix D)

What programs, if any, does IFD or the enterprise have in place that can be assimilated into the COOP?

Jack O'Tain was interviewed on February 2, 2022 (Jack O'Tain, personal communication, February 10, 2022). When asked if the Office of Audit and Performance (OAP) had a COOP plan, he said they did not (J. O'Tain, personal communication, February 2, 2022). The researcher then asked if, to O'Tain's knowledge, any of the other city agencies had a continuity plan (Jack O'Tain, personal communication, February 10, 2022). He stated he did not believe they did and that they have historically looked to Emergency Management for guidance on such issues (J. O'Tain, personal communication, February 2, 2022). He commended IFD's efforts to create a COOP and shared his experience with continuity planning in the private sector (J. O'Tain, personal communication, February 2, 2022). The preceding description is the full account of the interview.

Jacob Spence was the second person interviewed. The interview took place over the phone (J. Spence, personal communication, February 15, 2022). Spence was initially asked if the MESA Emergency Management Division had a COOP. He stated that the *Marion County Comprehensive Management Plan (CEMP)* served that purpose, but it was out of date (J. Spence, personal communication, February 15, 2022). The researcher asked if he was aware of any other agencies in the county that had a proper COOP, to which he answered he was not (J. Spence, personal communication, February 15, 2022). The researcher inquired about the difference between the *Marion County Multihazard Plan (MCMH)* and the *CEMP* (J. Spence, personal communication, February 15, 2022). Spence explained that the Office of Sustainability designed the *MCMH* with grant requirements in mind (J. Spence, personal communication, February 15, 2022). He also said that control of the document would remain with that office until the *CEMP* updates were complete (J. Spence, personal communication, February 15, 2022). A brief discussion occurred where Spence reiterated that his agency's primary objective was to

ensure that each city agency had a continuity plan and that those plans were worked together and within the framework of the *CEMP* (J. Spence, personal communication, February 15, 2022).

The preceding description is the full account of the interview.

The third interview was with Michael White. When asked if there were any existing programs that IFD could fold into its COOP, White responded that the department did have a critical staffing plan (M. White, personal communication, February 23, 2022). However, he noted that the plan only spoke to the different staffing stages with no mention of triggers that would cause escalation (M. White, personal communication, February 23, 2022). White was unaware of any formal plans regarding alternative apparatus or facilities (M. White, personal communication, February 23, 2022). He pointed out that many facilities (including headquarters) would relocate to the unused third floor of the training academy (M. White, personal communication, February 23, 2022). White also mentioned that the department's mutual aid agreement with one local partner called for only one ambulance to be shared (M. White, personal communication, February 23, 2022). He added that emergencies have always been covered on a case-by-case basis and that overtime had been the standard remedy for staffing concerns (M. White, personal communication, February 23, 2022). The preceding description is the full account of the interview.

Jerry Martin provided the fourth interview. Martin expressed concerns that only 12 of the 44 IFD stations currently had backup generators, and one of those was broken (J. Martin, personal communication, February 23, 2022). Other houses have been wired to be powered by a pull-behind generator (J. Martin, personal communication, February 23, 2022). He pointed out that the department utilized modified response strings during surge events and LiveMUMS to determine when apparatus are needed to backfill an area (J. Martin, personal communication,

February 23, 2022). Finally, he spoke of the department's strong relationships with most of its neighbors (J. Martin, personal communication, February 23, 2022). The preceding description is the full account of the interview.

The fifth interview was with Matt Henss. Henss spoke about MESA's continuity of communications plan (M. Henss, personal communication, 2022). He was unsure that the plan existed as a single document but would follow up on it (M. Henss, personal communication, 2022). He stated that MESA was working with the other public-safety answering points (PSAP) to create seamless connectivity between the organizations (M. Henss, personal communication, 2022). He then pointed to the use of AT&T's FirstNet as another continuity measure (M. Henss, personal communication, 2022). The preceding description is the full account of the interview.

Kevan Crawley provided the final interview. Crawley stated that logistics had maintained many contracts to remove hurdles and decrease wait times (K. Crawley, personal communication, February 23, 2022). He gave the example of the contract with Pierce allowing IFD to immediately purchase a stock tanker at the contract price, eliminating the need to redesign and bid out every time the department needs one (K. Crawley, personal communication, February 23, 2022). He stated that IFD is subject to supply chain issues like everyone else (K. Crawley, personal communication, February 23, 2022). The city has contracts with three fuel vendors, but those will likely only be sufficient for the short term in the face of a city-wide fuel outage (K. Crawley, personal communication, February 23, 2022). Like OAP, IFD has relied on Emergency Management to take care of their needs in the face of a disaster, but even they could not provide the needed resources during the early days of the pandemic (K. Crawley, personal communication, February 23, 2022). Changing the response model is another way IFD has

adjusted when facing staffing shortages (K. Crawley, personal communication, February 23, 2022). The preceding description is the full account of the interview.

Discussion

The following discussion will compare the primary guidance provided by FEMA to that found in the non-FEMA literature and COOP practices of the sample departments. As the purpose of this research is to discern the key components to be included in IFD's COOP, the findings and opinions from the IFD interviews will also be considered. The discussion will cover the scope and purpose of a COOP, who should construct it, how MEFs are discerned, and which CCEs should be included. It will also cover the role that succession should play in the process and if IFD has any viable plans for its inclusion in the COOP. From the start, it is worth noting NFPA's (2019) guidance that continuity planning should: continue critical and time-sensitive processes; identify and document needed resources; set and meet recovery time and recovery point objectives; address supply chain issues.

It is also worth once again noting that many of the results provided in this section were the result of personal communications in emails, text messages, message board posts, messaging application posts, and phone calls. Some of these interactions were confidential, as were many of the shared documents. With guidance from his NFA evaluator, the researcher has provided as much information as possible in the appendices. Direct links can be found in the references to all outward-facing documents and sources utilized.

Several forms of guidance are presented as to the opening structure of a COOP document. The CGC (FEMA, 2018a) supports defining the purpose and vision of a continuity document. This idea appears to be supported by the literature review and the collected COOPs. FEMA states in the *CGC*, "Continuity is an important element of preparedness and an integral

part of each core capability across the five mission areas of protection, prevention, mitigation, response, and recovery” (FEMA, 2018a). This notion is shared by Hendricks (2016), Johnson (2015), Warnock (2019), and EMAP (2019). Hampton, San Ramon Valley (2019), Escambia County (2007), among others, all included a purpose statement early in their plans (see Appendix A). An area of inconsistency was Barishanky’s (2015) call to include a department’s mission, vision, and value statements, but this was not widely mentioned by other literature or reviewed plans. Another example was that several departments included objectives, but the literature offered little support for doing so. To ensure synergy, there would seem to be value in marrying the document’s purpose and objectives to the department’s mission, vision, and values. The inclusions of assumptions made, as modeled by Toledo and Houston, among others, also appear to be worthwhile (see Appendices C and E).

The *CGC* (FEMA, 2018a) suggests that the COOP creation and management processes begin with the fire chief appointing a COOP team and team leader. The formation of a team with an acknowledged leader is widely supported (Mackey, 2017; NFPA, 2019; Warnock, 2019; Feinman, 2020; Mohr, 2020). The team should have representation from each internal program, partner organization, and other entities a department will rely upon to continue providing its MEFs (FEMA, 2018a). Such a team may include representation from EMS, IT, facilities, human resources, comptroller’s office, security, legal, and the collective bargaining group (FEMA, 2018a). In addition, Mackey (2017) and Warnock (2019) supplement this list by adding in the public and political leaders. Feinman (2020) suggests recruiting representation from each group involved in or affected by the continuity process, ensuring interdependencies are considered.

The sample departments did not heed this advice. No department shared that they had intentionally sought external input beyond an emergency manager. In several cases, the plan

appears to have been written by only one or two people (Summit, Newton, and California) (see Appendices A and E). Most plans involved following FEMA's guidance of utilizing a peer-led team, but the participants were all internal stakeholders (typically command or executive staff members) (for example, Lincoln, Toledo, and Gwinnett County) (see Appendices A, B, and C). While this approach runs the risk of underappreciating or missing interdependencies, it is much easier to facilitate. A competent emergency management division may overcome issues stemming from a lack of external input. Still, there is merit to gaining the perspectives of this broader group, even if it is only in the foundational periods of performing the risk and vulnerability assessment, BPA, and BIA.

Regarding the leadership position, NFPA 1600 (2019) states that the fire chief is ultimately responsible for the plan but is free to assign a person of their choice to lead the effort. *CGC* (FEMA (2018a)) agrees with this stance. The fire chief would act as the department's continuity coordinator, and the appointee would be the continuity planner and manager (FEMA, 2018a). The research found that the person filling the COOP team leader role was typically one organizational level down from the chief, often in the operations division. This choice makes sense because the person likely has legitimate and operational expert power. The downside to utilizing an operations chief in this role is that they may be forced to split time during an active event or choose between serving as the COOP team facilitator and managing operations. They may also lack the breadth of institutional knowledge needed to coordinate efforts that extend beyond the theatre of operations. For this reason, utilizing an assistant chief (second-in-command) or someone from logistics or planning may be a better fit.

Once the team is set, FEMA (2018a) calls for creating a strategic plan for COOP development and implementation that contains timelines and benchmarks. The plan must also

account for preliminary budgeting and financial requirements (FEMA, 2018a). This sentiment is echoed by Voigt (2012) and Ledford (2009). To this end, Grand Rapids utilizes a Gantt chart to set and illustrate the process schedule (see Appendix D). The development of a Gantt chart would be a valuable tool to include in IFD's COOP.

Several FEMA documents (2018a; 2019c; 2020b) and NFPA 1600 (2019) stress the importance of continuity plans remaining congruent from the federal to the local level. At each level, plans also need to run parallel with partner agencies (FEMA 2018a; 2019c; 2020b). Hendricks (2016) reiterated that a fire department's continuity planning must align with other city agencies and on the regional, state, and federal levels. Newton and Hampton's COOPs both sought alignment with regional entities (see Appendix A). Spence stated that one of his primary concerns is ensuring that all city agencies' continuity plans align with the *CEMP* (J. Spence, personal communication, February 15, 2022). Recognizing the importance of synergy at all levels, IFD should work directly with Spence from the beginning of the process to ensure alignment.

The first continuity checklist provided in the *CGC* (FEMA, 2018a) shows the first step as examining the current state of organizational planning. The interviews suggested that while several mechanisms are in place to expedite a return to service or replace needed equipment and supplies, the critical staffing plan was the only formal document of the type. Even that document possessed significant gaps in need of address. The *CGC* also states that departments need to consider state and federal statutory and regulatory responsibilities (FEMA, 2018a). The Office of Corporate Counsel and International Association of Fire Firefighters (IAFF) Local 416's legal team will be valuable resources to involve to ensure that nothing is missed.

The *CGC* (FEMA, 2018a), *CPG 101* (FEMA, 2020b), *THIRA* guide (USDHS, 2018), NFPA 1600 (2019), and EMAP (2019) all call for a risk and vulnerability assessment to be performed when determining MEFs. The *THIRA* guide states that risks and vulnerabilities of concern should be identified, given context, and assigned capability targets (USDHS, 2018). Risks may be natural, technical (human-related, unintentional), or terrorism (human-related, intentional) (Weyand, 2018). Historical data from the National Oceanic and Atmospheric Administration (NOAA, 2022) and Insurance Information Institute (III, 2022) shows that weather events, particularly thunderstorms and winter storms, have been common in Indianapolis. The 2019 State of Indiana Standard Multi-Hazard Mitigation Plan cited extreme hazards and riots as Indianapolis's highest risks (Indiana Department of Homeland Security, 2019). The IAFC also provides a helpful list of threats to the fire service (IAFC, 2011). IFD would be well-advised to carefully weigh the state of the area's infrastructure and the technological risks presented by its major manufacturers.

When considering context and assigning capability targets, the immediate aftermath of the risk event must be considered by periods such as 4, 12, and 24 hours after onset (FEMA, 2020b). Weyand (2018) says departments should be concerned about power and communication outages, water supply availability and contamination, loss of vital records, access to IT, transportation issues, and the health and safety of the public and department members. The concerns regarding water supply were echoed in interviews with White (M. White, personal communication, February 23, 2022) and Crawley (K. Crawley, personal communication, February 23, 2022). Mackey (2017) added the accessibility of fuel, gas, and oil to the list, and EMAP (2019) listed the public's faith in governmental agencies as an item to consider. Lincoln and Virginia organized risk from an internal perspective, categorizing their impacts in terms of

reduced workforce, resource availability, or systems failure (see Appendices A and B). IFD's ability to address many of the concerns shared by Weyand, White, Crawley, and Mackey will be limited but utilizing Lincoln's impact framework provides a methodology to best limit their effects.

The *CGC*'s next step is to perform a BPA (FEMA, 2018a). The BPA begins with the COOP committee and SMEs brainstorming the essential functions each department program performs (FEMA, 2019b). FEMA's community lifelines should guide this process, specifically those relating to safety and security, health and medical treatment, and hazardous material mitigation (Cain, 2020). Mackey (2017) says that all vehicles, facilities, and systems, at a minimum, should be considered. After the list is compiled, functions that are not essential can be removed from consideration. The remaining items should then go through a BIA (FEMA, 2018a). Johnson (2015) describes this process as considering which department actions are irreplicable, whom the actions affect, and the impacts if the functions cease. Once the BIA is completed, the functions should be further refined, prioritized, and assigned recovery time objectives (FEMA, 2018a). This MEF identification process speaks to the need for a diverse COOP committee to ensure no critical functions are overlooked and interdependencies are considered.

The literature review and research uncovered several examples of MEFs, ranging from the very broad to the more specific. Every example included some form of operational response as a MEF. Beyond that, Mackey (2017) added communications, staffing, transportation, facilities maintenance, and IT. The IAFC pointed to public safety capabilities (beyond emergency operations) and financial and business processes (Warnock, 2019). Weyand (2018) added emergency management, and Reissman (2011) included providing for the safety and well-

being of the department's members and their families. Several departments all agreed with Reissman's (2011) suggestions, with Houston and Toledo including it as a MEF and San Ramon Valley (2019) and Spokane Valley (2020) addressing the concept in their COOPs (see Appendices C and E). San Ramon Valley (2019) also considered animal rescue services.

The research data showed that fleet and facility maintenance, fire and life safety (particularly investigations), dispatch, and supply logistics were almost universally included as MEFs (Figure 1). Surprisingly, supply logistics did not show up in the literature review aside from possibly falling under business processes, as this would be a key concern for maintaining MEF provisions over an extended period. Other differences found between the research and literature were the departments' inclusion of training, internal affairs, and reporting. While IFD needs to go through an entire risk and vulnerability assessment, BPA, and BIA, creating a list of the MEFs found in the literature and research should serve as a minimum checklist during the initial brainstorming process.

At this point, Vidovich (2020) advises that departments should think through the mission essential personnel needed to complete the MEFs and define their tasks, roles, and responsibilities. The systems and resources needed to perform each MEF and mission essential task should be identified (Vidovich, 2020). Alternative facilities should be identified and agreements for their use obtained (Vidovich, 2020). Finally, a crisis communications plan should be developed and exercised (Vidovich, 2020). These thoughts present a nice segway as the focus moves from MEFs and on to CCEs.

FCD-1 (USDHS, 2017a) spells out the 11 CCEs: program management, plan, and procedures; essential functions; orders of succession; delegations of authority; communications and information systems; essential records; alternate locations; human resources; devolution;

reconstitution; test, training, and exercises. As noted earlier, only Gwinnett County included all 11 in their COOP (B. Wolfe, personal communication, February 21, 2022) (see Appendix A). According to Weyland (2018), the most commonly excluded elements are devolution (22 percent) and reconstitution (26 percent), followed by essential records and test, training and exercises (both at 42.5 percent). These results largely mirrored those of the metro departments in the research sample, with devolution, reconstitution, and test, training, and exercises being the most excluded (see Table 1).

Outside of FEMA (2018a; 2019c; 2020b) and U.S. Department of Homeland Security (USDHS) (USDHS, 2017a) documents, nothing of note was found in the literature review on the topics of devolution and reconstitution; however, the four largest departments in the sample had each accounted for both (see Appendices A, C, and E). These outcomes may show that the need for devolution and reconstitution planning is directly related to the size and complexity of an organization. The federal documents are designed for application across all levels and programs, some of which employ hundreds of thousands of people that are spread across thousands of work locations (U.S. Postal Service, as an example). Comprehensive plans for devolution and reconstitution for these groups are not only warranted but vital.

According to the NFPA (2020), the average fire department employing career firefighters had less than 62 members. After accounting for administration staffing and a three-day work cycle, these departments have roughly 19 frontline firefighters available each day (before vacation, sick leave, and Kelley days). Even with staffing three firefighters per apparatus, the need for a command vehicle would limit the average department to between four or five apparatus. Devolution and reconstitution may not be huge undertakings for departments this

size. As this situation is the norm across the American fire service, it may account for so little attention having been paid to the topic by researchers.

IFD has more in common with Toledo, Gwinnett County, and Houston (all of which have accounted for both elements). With over 45 worksites, 1,200 employees, and the corresponding system complexities, transitioning to alternate locations and tactics will likely be a significant undertaking (IFD, 2019). The same will likely be true as the critical event is winding down. Therefore, IFD should follow the example of its larger peers and include devolution and reconstitution planning in its COOP.

Vidovich's (2020) call to identify alternative locations relative to the MEFs is shared by FEMA (2018a). Alternative locations were addressed in six of the eight metro departments' COOPs (Table 1) and should be addressed by IFD. As Vidovich (2020) alluded, identifying alternative sites only fulfills the need partially. If those locations are owned or controlled by external entities, contracts and agreements should be established to ensure their availability when needed. San Ramon Valley (2019) also brought up ensuring the alternative site meets all ADA (DOJ, 2017) requirements. Escambia County (2007) provided a helpful checklist template covering site spin-up that IFD should be considered employing.

FEMA (2018a) discusses a few other aspects of mitigation options. After the past few years, the use of "telework" (working remotely) has become commonplace. Telework may be a viable option to maintain some MEFs or aid in devolution and relocation processes (FEMA 2018a). If there is a plan to utilize telework, Vidovich (2020) stresses the importance of exercising this alternative form of communication and building contingency plans. Another aspect to consider is mutual aid (FEMA, 2018b). Solidifying contracts and accurately forecasting the availability and capabilities are best practices (FEMA, 2018b). Given IFD's high

number of mutual and automatic aid partners, the advice should be heeded if these resources are accounted for in operational planning.

All eight metropolitan departments addressed human resources as a CCE (see Figure 3). Workers need to be taken care of and provided with reasonable accommodations (FEMA, 2018b). Essential records, another element universally covered by the sample metro departments (see Table 1), must be identified, maintained, and accessible (FEMA, 2018b). Seven sample metro departments supported the importance of continuous communication by including it in their COOP. Communication covers dispatching incidents, emergency response communications, inter- and intra-agency communication, and public relations (FEMA, 2018b). These elements are justified for inclusion in a metro department's COOP.

Orders of succession and delegations of authority are closely related but often conflated. The orders of succession detail who will fill a role should it become functionally vacant. FEMA's (2018a) guidance is that departments plan for at least three successions. The research found that all but one metro department COOP addressed succession, but the focus was usually limited to the fire chief. Houston provided perhaps the best example, detailing lines of succession for several positions and including conditions for succession and limitations.

Delegations of authority describe the process of temporarily transferring powers to individuals to act on behalf of the organization (FEMA, 2018b). The authority and its limitations should be clearly defined, as should the triggers that lead to the delegation (FEAM, 2018b). Vidovich (2020) considered establishing the delegations of authority as essential. Given IFD's size and complexity, orders of succession should be established for all mission essential positions, and delegations of authority should be formally declared.

The last continuity capability to discuss was mentioned previously. Test, training, and exercises were only accounted for by half of the sample metro departments (see Table 1) and slightly less than half of the departments in Weyand's (2018) survey (42.5 percent). FEMA feels strongly enough about the need to train on continuity planning that they created a 79-page document dedicated to the topic (FEMA, 2020a). Similar to devolution and reconstitution, the same, larger metro departments included training in their documents. The inclusion may be driven by need due to the complexity of their situations. It is interesting that half of the non-metro departments also included training in their COOPs (see Table 1). Additional guidance was provided by Warmock (2019), who spoke to the value of post-checks and Feinman (2020) that said training is as much about erasing bad habits as it is teaching new behaviors. For IFD, these new processes will need to be practiced again and again simply to identify performance gaps and improve the plan in a non-emergency situation.

FEMA (2018b) suggests that plans should be reviewed when there is a new chief, significant changes within the organization, or when mandated by law. They also suggest that changes could result from post-check analyses, changes in MEFs, and the results of tests, training, and exercises (FEMA, 2018b). In practice, the sample departments reviewed their COOPs at least annually, while many were undergoing some review every six months (see Appendices A-E). If the plan is to be valuable, the specifics (particularly contact information) need to be accurate. Review approaches included utilizing the command staff (Houston), COOP teams consisting of members from different program areas (Lincoln and Toledo), and two-person teams of the fire chief and the COOP team leader (California). One approach to consider is utilizing end-of-year program assessments to review MEFs and the COOP information each program is responsible for keeping updated.

A handful of warnings and concerns that warrant attention were expressed in the literature. Drewery (2019) listed the main flaws responsible for adverse outcomes in continuity planning: lack of imagination; faulty assumptions; analysis paralysis; a desire to protect the status quo; turf battles; complacency; lack of awareness; ignoring warning signs. Warnock (2019) points out that people have to understand that relying on typical redundancies or invulnerable systems is a dangerous and foolhardy approach. EMAP (2019) reminds planners that the public's faith in government entities may affect how well a plan works. Feinman (2020) suggests that working to cultivate, nurture, and strengthen relationships with external partners can be mutually beneficial. Finally, Drewery (2019) and Johnson (2015) remind continuity planners that no plan can account for everything; rather, a COOP covers what it can and guides decision-making at other times. Creating the COOP is just the beginning. Leadership and the COOP team must constantly educate and sell people (internal and external) on the plan. Regarding succession planning, there was little in the literature that discussed succession planning regarding emergency continuity preparation beyond its inclusion as a CCE. While developing orders of succession is essential, those tagged to move into new roles need proper training on the tasks and responsibilities they will be inheriting. Grand Rapids was the only department in the sample that explicitly addressed this type of preparation (see Appendix D). Each department was tasked with developing a succession plan tied directly to COOP roles and trained on through their standard training calendar. This type of training is a best practice and should be considered by IFD.

Recommendations

This problem driving this research was that the IFD had not created a documented COOP to ensure the continued delivery of key services during disasters and catastrophic events. Its

intended purpose was to identify the key components to be included in a COOP, investigate how similar-sized departments have approached these topics, apply these ideas to IFD's organizational chart, and lay the framework for developing an IFD COOP. The final product of this research is suggestions for a methodology for creating a comprehensive COOP for IFD. To achieve this goal, the researcher performed a literature review, departments of various sizes from across the country were contacted regarding the continuity planning efforts, and members of IFD's executive staff, MESA, and OAP were interviewed. The following paragraphs contain the resulting recommendations.

IFD is strongly recommended to create a documented COOP. The department has over 1,200 members and covers close to 300 square miles and 700,000 people. The likelihood of a crisis event (natural or human-related) in the future is almost assured. The department has an obligation to its members and the people it serves to perform preventative measures when and where possible. It needs to be prepared to continue service and begin mitigation immediately following a crisis event. There should also be a plan to aid in the recovery efforts. The COOP creation process will serve as a proactive measure of the highest value and opportunity for continuous improvement. Performance gaps and inefficiencies will likely be discovered, which, when addressed, may yield positive results for the department's day-to-day operations.

The first step is to create a COOP team. The team should consist of members of the extended executive staff, chief officers, and company officers. Each program should have representation, as should MESA's Emergency Management Division and OAP. The Indianapolis Metropolitan Police Department, IAFF Local 416, Citizens Energy Group (the water and natural gas utility company), and the Office of Corporate Counsel should also have seats. Bringing in a diverse group of people, including those external to the organization, will

help to ensure interdependencies are recognized and considered. It also provides opportunities to nurture and strengthen relationships between all stakeholders.

Once the team is established, the fire chief should appoint a team leader. The team leader should facilitate all group meetings, plan the meeting curriculums, and guide the continuity planning process. Other team leader tasks should include updating the fire chief, serving as a liaison to external agencies and partners, and researching continuity best practices. Ideally, this person would be the assistant chief, as that person usually has both legitimate and expert power. In the best scenario, they also have referent power. If the team leader cannot be the assistant chief, the deputy chief of logistics, deputy chief of community risk reduction, or the planning division chief would be reasonable choices due to their institutional knowledge of the department and familiarity with emergency management.

The team's first act should be to use the department's mission, vision, and values statements to aid the creation of a purpose statement for the COOP. From there, clear objectives can be formed. The team should into the COOP training plan as the default guidance when unprecedented or unanticipated events require immediate action.

The team leader should work with the team to create a strategic plan for creating and implementing the COOP. Each phase should include deadlines, benchmarks, and financial considerations. Once completed, the team leader should create a Gantt chart to track program progress. The team leader should keep the chart current and share it with the fire chief, COOP team, and department membership to provide transparency and stimulate conversation.

The team should conduct a THIRA for the department and service area, considering the impact of crisis events on both. At a minimum, weather data, local infrastructure and industry,

the IAFC checklist (IAFC, 2011), and the state multi-hazard plan should be considered. The team should work with the accreditation manager to leverage their community risk assessments.

Next, the group, possibly with the help of additional SMEs from the department, should brainstorm each program's functions and identify those they initially believe to be mission essential. The group should consider which department functions are irreplaceable by others, who would be affected if those functions were no longer provided, and how impactful the loss would be. All IFD vehicles, facilities, and systems should be contemplated. At a minimum, the following functions should be considered: communications, staffing, transportation, fleet and facility management, information technologies, public safety capabilities, finance and business processes, emergency management, staff and family well-being, and animal rescue. A BPA and BIA should then be performed for each remaining task, following the guidance found in the *CGC* (FEMA, 2018a) and *CGC* (FEMA, 2020b). Once again, the list should be culled, and the remaining mission essential functions should be prioritized and given recovery time objectives.

For each MEF, an assessment should be done to identify its needed resources and systems. In each case, redundancies and alternatives should be discussed. This process includes identifying and securing the use of alternate facilities. ADA (DOJ, 2017) must be taken into consideration. Plans should be developed and trained on activating these facilities, and backup equipment should be tested periodically. When applicable, telework should be considered as an option to alternate facilities. Mission essential positions should also be determined and their tasks, roles, and responsibilities defined.

At this point, the focus should change to developing guidance on the other CCEs. IFD's COOP should contain all 11 CCEs. Program management, plans, and procedures should be covered by outlining how the plan was created and will be maintained. This step includes calling

for the plan to be informally reviewed by the COOP committee or planning division every six months and formally reviewed annually as part of each program's annual assessment. The purpose statement and objectives also fall under this element. One key element that this element should contain is a description of when the COOP should be activated.

Orders of succession should be created for at least the first three levels of succession, and COOP-related succession training should be developed and implemented. Delegations of authorities should also be written. The conditions for utilizing the orders of succession and delegations and their limitations should be explicitly stated. MESA should formalize and share its continuity of communications plan with the department. Additional communications needs (internal and external) should be agreed upon, and contingency plans designed, trained, and exercised.

Essential records and information systems should be also be discerned. Plans for protecting, collecting, and accessing essential records should be outlined. Mission-critical records should be produced in hardcopy form and distributed to all worksites. Like communications, essential information systems and their functions should be distinguished and backup plans created.

Devolution and reconstitution plans should be included in the COOP, and these procedures should be included in the test, training, and exercises portion of the plan. Training plans should cover all relevant COOP aspects and involve external partners. Each training should conclude with a post-check analysis to identify performance gaps and opportunities for improvement.

Once the plan has been created, extra emphasis should be placed on communication with internal and external stakeholders. Explain the findings of the risk and vulnerability assessment

and what they mean to the community and department. Share the process and results of the BPA and BIAs. Describe how things will be different during the activation of the COOP and what department members and the public should expect. Also, continue to explore and strengthen the relationships created during this process.

One area of consideration for future researchers is to explore the best practices for devolution and reconstitution. Another topic to further explore is the gap between the proclaimed importance of continuity plan training and its actual occurrence. If researchers can find a way to more easily train large departments and across agencies, the results would be impactful.

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[home/viewthread?GroupId=205&MessageKey=e8ea9347-2f34-4cca-85ef-](https://knowledge.iafc.org/communities/community-home/viewthread?GroupId=205&MessageKey=e8ea9347-2f34-4cca-85ef-a7861c07e71c&CommunityKey=f057b6e7-8125-4b81-98c5-7fee56071687&tab=digestviewer)

[a7861c07e71c&CommunityKey=f057b6e7-8125-4b81-98c5-](https://knowledge.iafc.org/communities/community-home/viewthread?GroupId=205&MessageKey=e8ea9347-2f34-4cca-85ef-a7861c07e71c&CommunityKey=f057b6e7-8125-4b81-98c5-7fee56071687&tab=digestviewer)

[7fee56071687&tab=digestviewer](https://knowledge.iafc.org/communities/community-home/viewthread?GroupId=205&MessageKey=e8ea9347-2f34-4cca-85ef-a7861c07e71c&CommunityKey=f057b6e7-8125-4b81-98c5-7fee56071687&tab=digestviewer)

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Weyand, K. (2018). *Continuity of operations planning: Enhancing the operational resilience of the Olathe Fire Department*. Retrieved from National Fire Academy:

<http://nfa.usfa.fema.gov/pdf/efop/efo244979.pdf>

Zamoum, K., & Gorpe, T. (2018). Crisis management: A historical and conceptual approach for a better understanding of today's crises. In K. Holla, M. Titko, & J. Ristvej, *Crisis management theory & practice* (pp. 203-217). London: IntechOpen Limited.

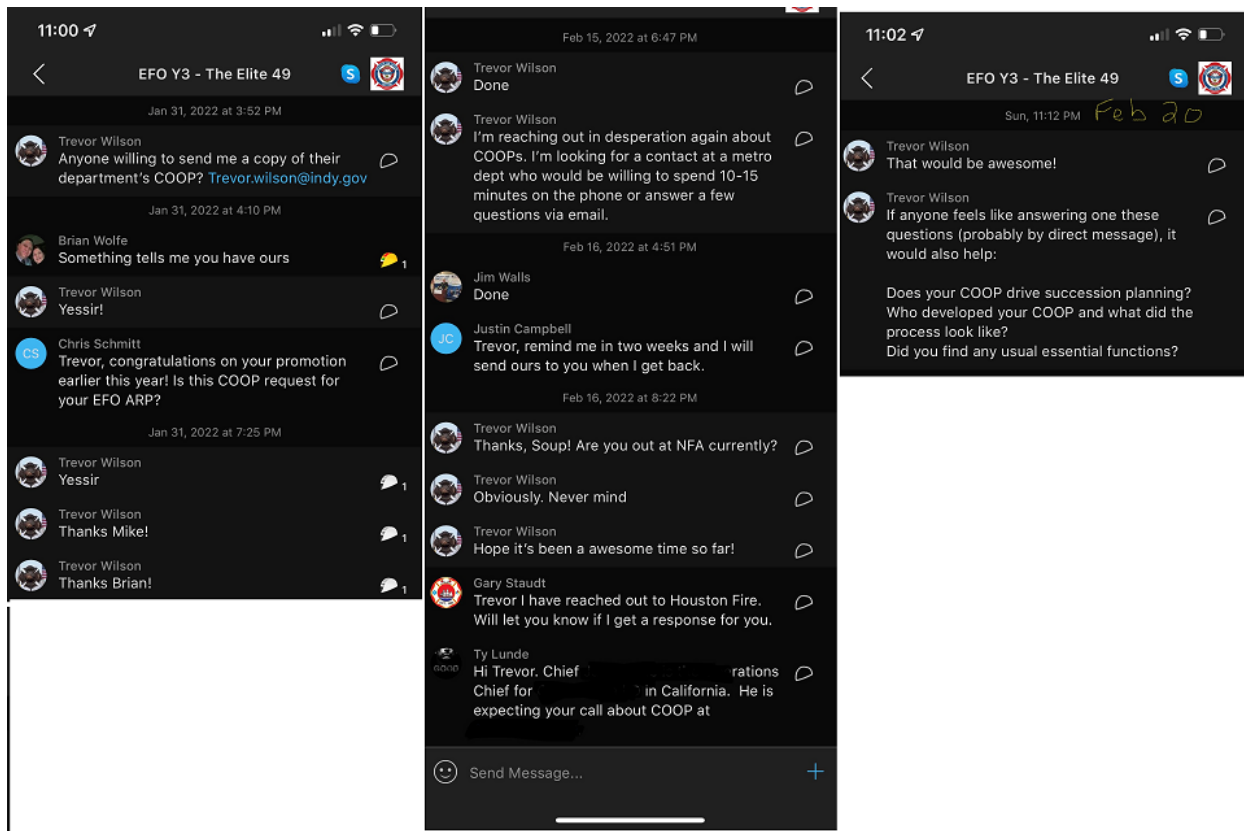
Appendix A

GroupMe Research

The researcher utilized a mobile phone application named GroupMe (<http://web.groupme.com>) for convenience sampling purposes. A message was sent out to the “EFO Y3 – The Elite 49” group that consisted of people who had attended the National Fire Academy’s R306 – Executive Analysis of Fire Service Operations in Emergency Management course together in August 2021. The researcher posted three messages in the group thread. This led to private messages, emails, and a phone interview. The messages will be presented in chronological order when possible.

Group Messages

The first message was sent on January 31, 2022. The researcher asked, “Anyone willing to send me a copy of their COOP? Trevor.wilson@indy.gov.” Brian Wolfe of Gwinnett County Fire and Emergency Services (GCFES) replied that the researcher should already have a copy of his department’s COOP. He said this because the researcher had been on location at GCFES as a CFAI peer assessor team member earlier in the month. Through the accreditation process, the researcher could view many documents relating to their COOP and read their self-assessment documents on continuity planning. At the time of the reply, the researcher did not realize that the actual COOP was kept on a secure website that was not accessible to non-Gwinnett County personnel. Chris Schmitt of Clay County Fire asked if the COOP request was for this applied research project, to which the researcher responded in the affirmative.



Gwinnett County Fire and Emergency Services (GA)

Brian Wolfe was the first person to respond to the initial group message. He stated he believed the researcher already had possession of GCFES's COOP. The researcher visited GCFES's CFAI SharePoint site on February 21, 2022, to search for the COOP and review the documents pertaining to Criterion 5E of the Quality Improvement for Emergency Services (CPSE, 2020). At that time, the researcher realized that the COOP was located on a secure website. The researcher then called GCFES's accreditation manager, Chad Sheppard.

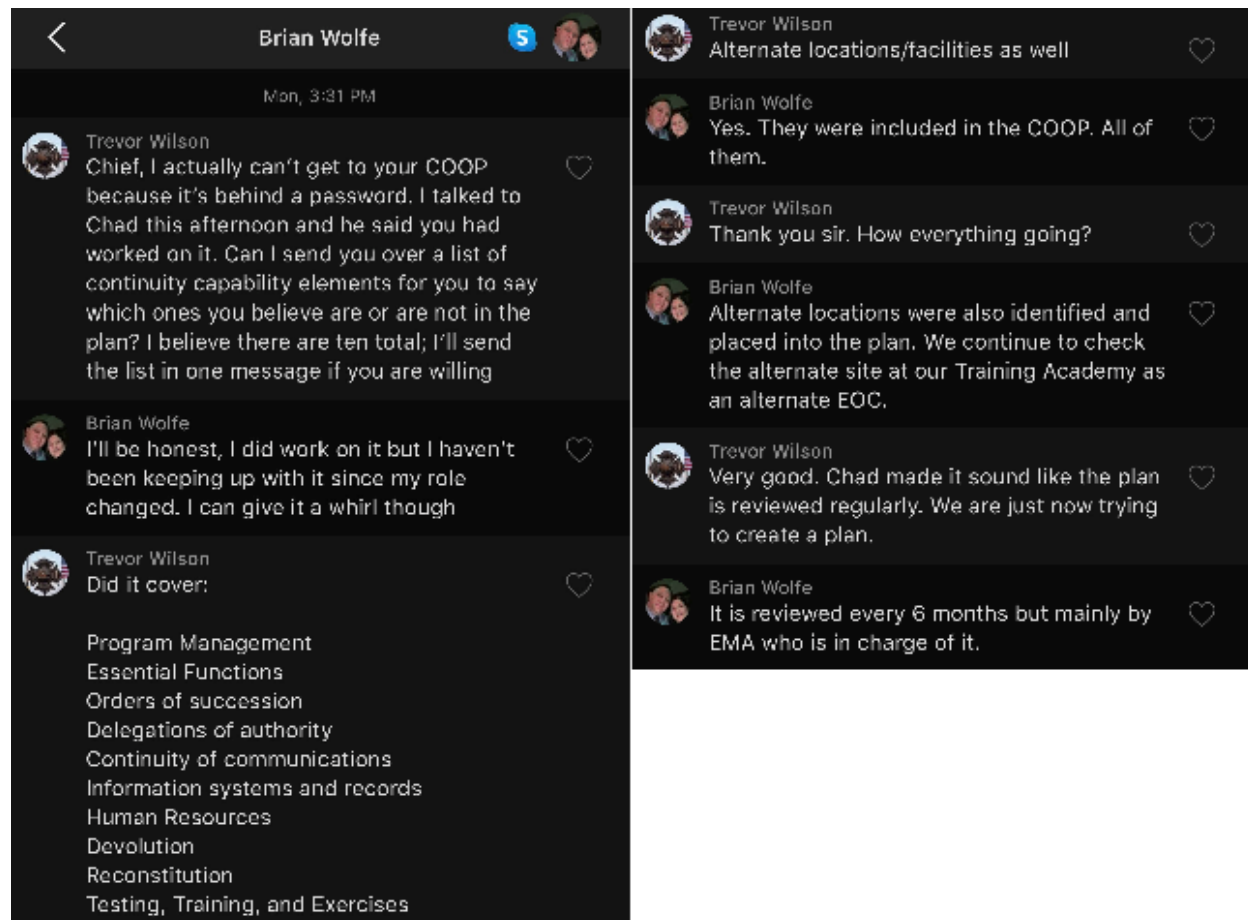
Sheppard answered questions regarding who was involved in creating and maintaining the COOP, if there were any extraordinary MEFs, and if succession planning played a role in its maintenance. He responded that the operations division and assistant chief of business affairs (Wolfe) had created the plan (C. Sheppard, personal communication, February 21, 2022).

Sheppard said the continuous improvement section reviewed the document monthly and that he

knew of no unusual MEFs (C. Sheppard, personal communication, February 21, 2022).

Regarding succession, he stated that succession training occurred through officers and chiefs (administration included) occasionally fulfilling the duties of the next highest level on the organizational chart, discussions that occur in the monthly planning meetings, and use of the county's management framework tool (C. Sheppard, personal communication, February 21, 2022).

The researcher sent another direct message to Wolfe on February 21, 2022, at 3:31 PM EST, to ask about the CCEs contained in the document. Wolfe of the 11 FEMA CCEs had been included. He also added that the COOP is reviewed every six months by the county's emergency management agency.



Clay Fire Territory (IN)

As seen in the screenshots of the initial group thread message, Chris Schmidt inquired about the use of the COOP documents that were being requested. He reached out via email on February 5, 2022, to ask more details could be provided about how the COOPs would be used and who would see them (C. Schmitt, personal communication, February 16, 2022). The researcher replied that they would be for research purposes only; they were not to be published or shared (C. Schmitt, personal communication, February 16, 2022). Schmitt did not reply to the email or in the GroupMe thread.

Hampton Fire/Rescue (NH)

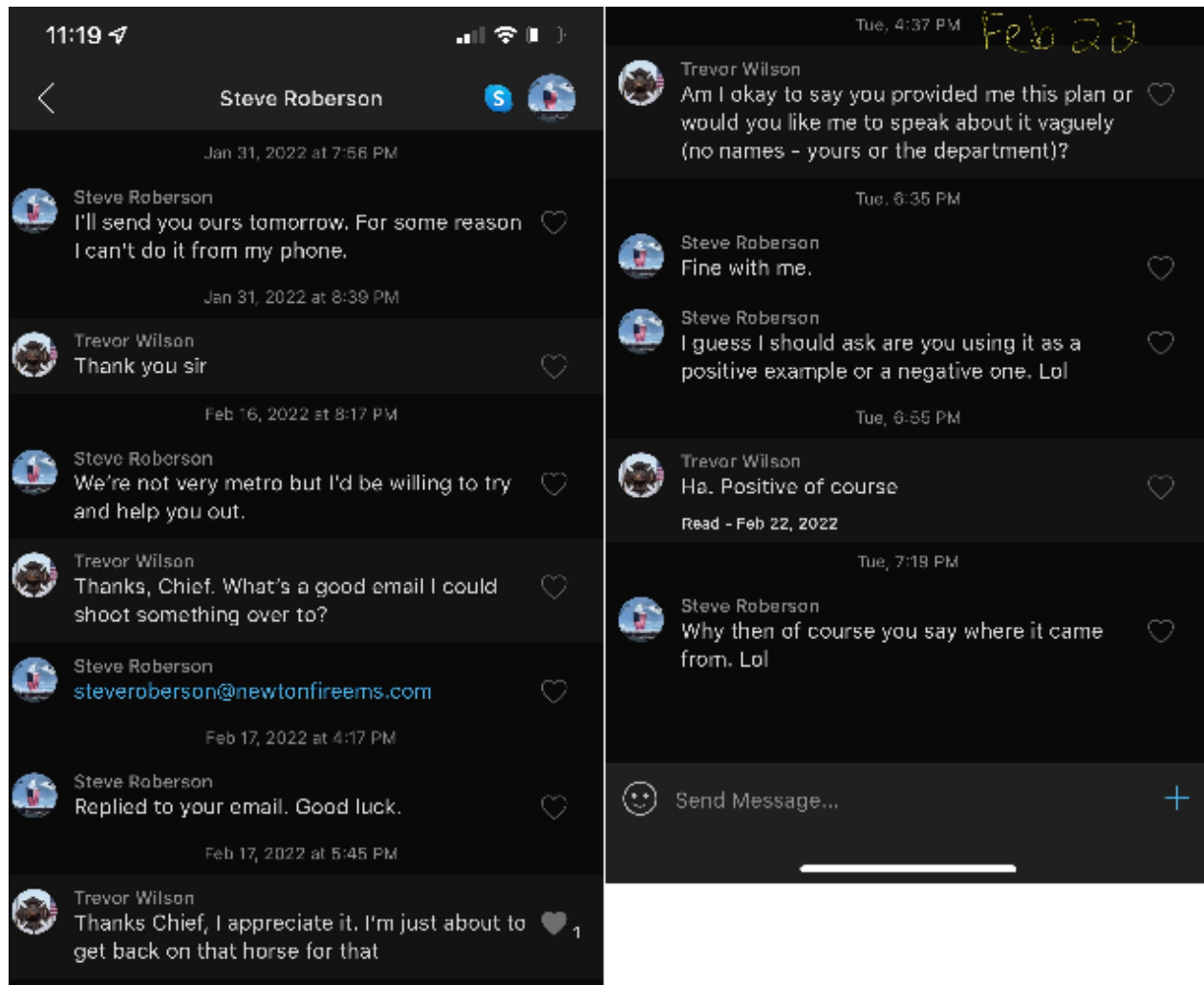
On January 31, 2022, at 4:24 PM EST, Michael McMahon forwarded the author the Hampton Fire/Rescue COOP. The document was created in response to the COVID-19 pandemic but now serves as the primary COOP for the agency. The researcher thanked McMahon and asked permission to use his name and Newton's in the research paper. McMahon agreed to their use.

Virginia Department (VA)

On January 31, 2022, at 7:35 EST, a chief sent the researcher a COOP from a metro department in Virginia. The researcher could not access the document initially, but a new copy was sent on February 15, 2022, at 10:46 AM EST. The chief attempted to connect the researcher to another district chief with extensive knowledge of the department's continuity planning efforts. The second chief was included in the initial chief's second email. The researcher emailed her directly but did not receive an answer. Permission to use the names of the department or people involved was not gained.

Newton Fire/EMS Department (KS)

On January 31, 2022, at 7:56 PM EST, Steve Roberson of Newton Fire/EMS replied in a direct message that he would send his department's COOP the following day. Newton's COOP arrived in the researcher's inbox about five minutes later. The next day (February 1, 2022), the researcher received an email with Newton Fire/EMS's COVID-19 staffing contingency plan. On February 16, 2022, at 8:17 PM EST, Roberson sent another direct message offering to answer the research questions discussed in the second group thread message (February 15, 2022). The researcher accepted his offer and emailed him the questions. Roberson replied on February 17, 2022, with detailed answers. On February 22, 2022, at 4:37 PM EST, the researcher requested permission to use Roberson and Newton's names in the paper and was given permission at 7:19 PM EST.



NS NFD Steve Roberson <steveroberson@newtonfireems.com>
 RE: COOP questions

To: Wilson, Trevor
 Cc: NFD Steve Roberson

10-65 Continuity of O...
 94 KB

CAUTION: This email originated from outside of the organization and contains an attachment. Unless you recognize the sender and know the contents are safe, do not open the attachment.

Hi Trevor – Hope all is going well.
 I will try to address each of your questions below. I think I have already sent you a copy of our COOP, but I will attach it to this email also. I will apologize in advance if my answers don't meet your expectations or needs. As I mentioned, while we are a municipal department, we are far from being metro.

I would like to see the results of your research when you're done. We have a lot of work to do on our COOP – thanks for bringing it to our attention. LOL
 Give me a shout if I can help with something. Stay safe and stay well –
 Steve

PS – Are you heading back to the academy in March?

Steve Roberson, Chief
 Newton Fire/EMS Department
 200 East Third Street Newton, KS 67114
 316.284.6060 Office
 316.284.6061 Fax

Thanks again, Chief, for volunteering to help with this process. I'm getting close to being able to hammer this out, but it will be down to the wire!

Who is responsible for producing your COOP? How were they chosen and what processes did they employ?
 The oldest version of our COOP that I can locate, dates back to 2009. While it has undergone several iterations, the most revision occurred in 2020. I believe the plan was created by the department administration at the time. The Chief at that time, had come from outside our agency. He had been in the fire service for several years, working only in the fire discipline and for much larger departments than ours. While I'm not certain as to how or why he was chosen or what process was used, I have a high degree of suspicion that the National Fire Academy had a lot to do with it. When he was hired to lead our department, he was in his 3rd year of EFO. As such, I believe what became our COOP was likely the result of an ARP.

Did you identify any mission essential functions that may be unique compared to other departments?
 Not really. Due to our limited size, there is a high likelihood that our members will be tasked with multiple responsibilities. Our department serves as the ESF for 4 - Firefighting, 9 – Search and Rescue, and 10 – Oil/Hazmat. Therefore, while we are likely going to be heavily invested and involved in the operations section, we too are going to be responsible for staffing positions in the EOC.

Does the document call for ongoing succession planning and cross-training outside of major events?
 Unfortunately, no. Like many departments, we have folks that really get into this stuff and are really good at it. Organizationally we have not mandated any position specific training for our members. We have however advised our members that they may need to fill a position in NIMS or the EOC, along with the expectation that they will be proficient in doing so.

Finally, does your COOP account for the following:

Essential functions –
 Yes. It addresses the continued provision of services. Additionally, it lists essential functions of a limited number of position specific assignments.

Orders of succession –
 Yes, however not using those words. As you well know, it all falls to the Chief, however our COOP uses the nifty phrase of "or his designee".

Delegation of authority –
 Yes, however this is only applicable within the realm of our Fire/EMS department.

Continuity facilities
 No, it does not specifically address continuity of facility operations. All of our facilities are equipped with generators and have enhanced communication capabilities so that each facility could serve as an command post, EOC or base of continued operations.

Continuity communications
 Yes, focused on maintaining radio comms for field units, dispatch, EOC and ICP. Emphasis should be also be focused toward establishing and providing ongoing communications between the EOC and Incident Command Post.

Essential records management
 It is mentioned in the COOP but only as a responsibility of the Planning Section Chief.

Delegation of authority –
 Yes, however this is only applicable within the realm of our Fire/EMS department.

Continuity facilities
 No, it does not specifically address continuity of facility operations. All of our facilities are equipped with generators and have enhanced communication capabilities so that each facility could serve as an command post, EOC or base of continued operations.

Continuity communications
 Yes, focused on maintaining radio comms for field units, dispatch, EOC and ICP. Emphasis should be also be focused toward establishing and providing ongoing communications between the EOC and Incident Command Post.

Essential records management
 It is mentioned in the COOP but only as a responsibility of the Planning Section Chief.

Human resources
 Not specifically mentioned or assigned. This would likely be under the purview of the Logistics Section.

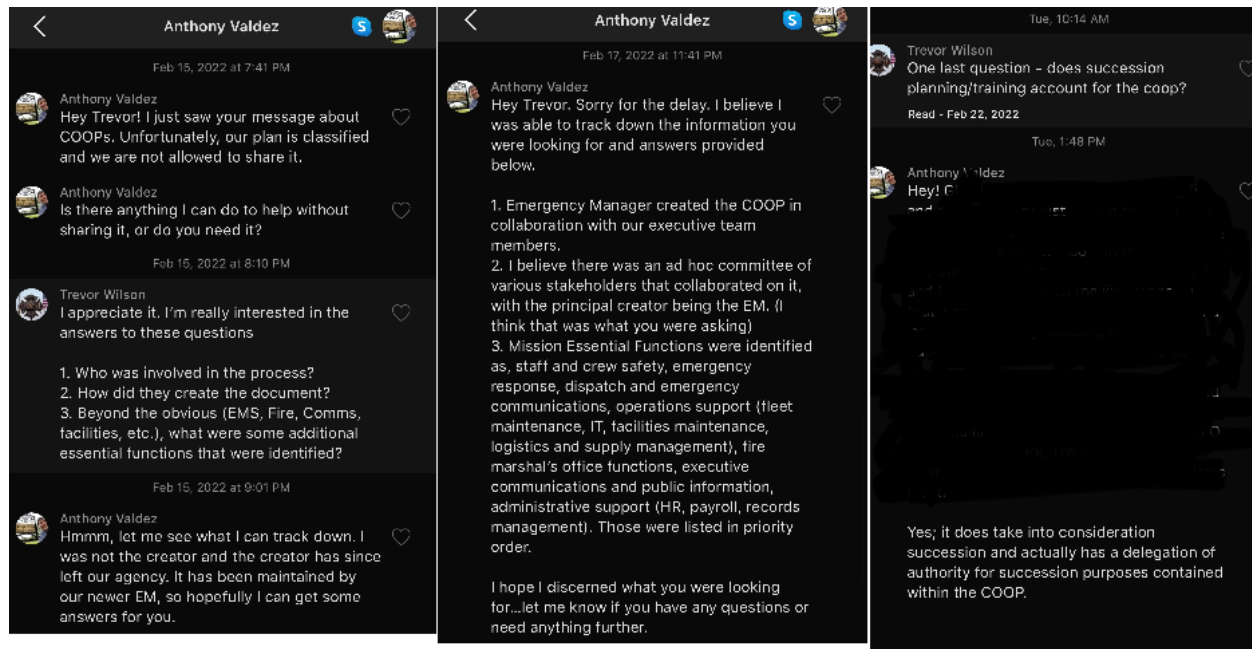
Testing, training, and exercising the plan
 No. I'm embarrassed to say there is no mention of practicing the plan, education or training requirements.

Devolution of control and direction
 While this is mentioned, it does not specifically mention how or the mechanism in which this should occur. However operational briefings, SIT reps and Demobilization are listed as being a responsibility of the Planning Section Chief.

Reconstitution
 This is not mentioned.

South Metro Fire Rescue Authority (CO)

Anthony Valdez sent a direct message to the researcher on February 15, 2022, at 7:41 PM EST, stating that he could not send his COOP but was willing to help in any other way. The researcher sent three questions to him later that evening. Valdez answered the questions on February 17, 2022, at 11:41 PM EST. The researcher posed a final question on February 22, 2022, at 10:41 AM EST, and Valdez responded at 1:48 PM EST.



California Department (CA)

Ty Lunde sent the researcher a direct message on February 16, 2022, at 1:06 PM EST, that provided the name and number of the operational chief of a metro department in southern California. The name and phone number of the chief have been redacted as his permission was not gained for their inclusion. The direct messages between Lunde and the researcher have also been excluded.

On February 16, 2022, the researcher called the chief at 8:43 PM EST. The researcher asked who had created the department's COOP, how the document was written, who reviewed it, and if it contained any unusual MEFs. The chief said that he had written the document himself and that he and the fire chief reviewed it annually (Anonymous, personal communication, February 16, 2022). There were no abnormal MEFs (Anonymous, personal communication, February 16, 2022).

During the interview, the researcher began to worry that the COOP in question was only focused on responding to the COVID-19 pandemic and staffing issues. Several attempts were made to

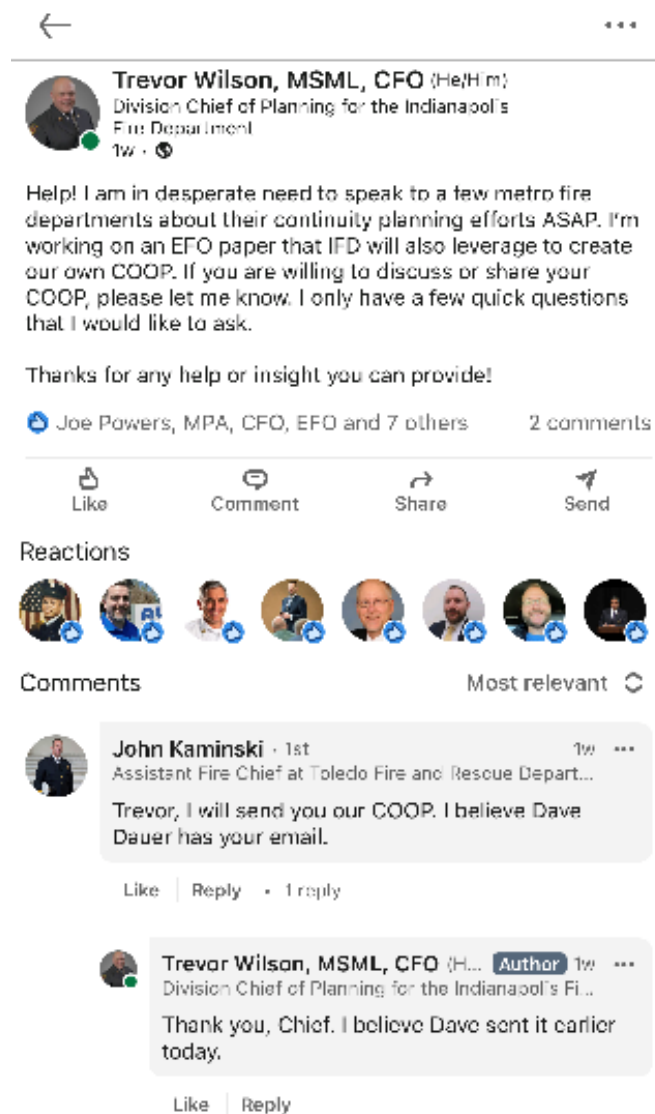
discuss broader topics, but the document the chief spoke to appeared to be the functioning COOP (Anonymous, personal communication, February 16, 2022). The chief agreed to send the COOP, which he did that evening at 9:50 PM EST. The document appears to supplement a larger COOP, but that opinion was never substantiated.

Appendix B

LinkedIn Research

The researcher utilized the social networking site LinkedIn (<http://www.linkedin.com>) for convenience sampling. A message was posted on February 15, 2022. The post stated that the researcher was desperate to speak to people in the fire service about their continuity planning. It was explained that the conversations would be used both for research purposes and to aid IFD in creating its COOP. Specific questions were not posted, but those willing were asked to send the researcher a direct message or reply to the post. The original post received eight likes and only two comments, one from John Kaminski and a reply to him from the author. Kaminsky offered to share Toledo's COOP, but the researcher had already received a copy of it. Debby Murphy and Tim Nowak shared the post. Nowak's post garnered four comments, but none resulted in contacts for the researcher.

The post resulted in three direct messages. Debby Murphy wrote to say she had shared the post and to wish good luck. Denis Meade wrote with a potential contact person at South Metro. The researcher was unable to contact that person but did gain information on South Metro from a different source.



The lone successful contact was with Nic Cunningham of Lincoln Fire and Rescue.

Cunningham and the researcher have worked together in the past. Cunningham sent a direct message on February 19, 2022, at 8:50 AM EST. He shared Lincoln's COOP and an evaluation of the current deployment and performance document on February 19, 2022, via email. On February 21, 2022, the researcher used direct messages to ask who created the COOP document, when it was reviewed and who does it, and succession planning. Cunningham stated that the original COOP predated his involvement but that he has added to it since becoming the accreditation manager. He stated that he and the fire chief are the primary reviewers (the COOP

states that it is reviewed every six months by the fire chief, COOP team leader, logistics chief, EMS chief, and the battalion chiefs). He then proceeded to permit the use of the department's name and his own.

Nic Cunningham, MS, NRP, FO

Mobile • 19h ago

...

FEB 19

Nic Cunningham, MS, NRP, FO

8:50 am

I just caught your post, where would you like me to send my coop to? I'm working on redeveloping hours, too.

Ours....dam voice texting

Trevor Wilson, MSML, CFO

8:52 am

Awsome. Thanks! Trevor.wilson@indy.gov

Coming to Orlando?

Nic Cunningham, MS, NRP, FO

8:53 am

Sweet, I'll get it to you pretty quick. I'll be there., I hope you are!

Trevor Wilson, MSML, CFO

9:00 am

Yessir!

Nic Cunningham, MS, NRP, FO

9:09 am

Bad ass. I'm looking forward to catching up!

COOP sent....

Trevor Wilson, MSML, CFO

9:17 am

Thank you sir! Me too

Nic Cunningham, MS, NRP, FO

Mobile • 19h ago

...

MONDAY

Trevor Wilson, MSML, CFO

1:09 pm

Thanks for sending me the coop and performance document. There are plenty ideas in there that I will be stealing. Did you create the original document by yourself?

Nic Cunningham, MS, NRP, FO

1:13 pm

Anytime! The performance document is of my design. The COOP is not.

Nic Cunningham, MS, NRP, FO

1:17 pm

There are several elements in the coop that were added after I inherited it, though. Namely, the distribution/draw down. Our GIS analyst is pretty great and put that part together.

Trevor Wilson, MSML, CFO

1:37 pm

Sorry for all the questions. If you don't have time, just let me know. I have about three more (or less) When it's time to review the document, who all is involved in the process?

Nic Cunningham, MS, NRP, FO

2:00 pm

I've got all the time in the world for you...Historically, it's been between me and the fire chief. We don't have a chief of planning or accreditation. Since we added another assistant chief, they could be involved in the future.

Trevor Wilson, MSML, CFO

2:11 am

Great. Last question then, how does succession planning/training fit into your COOP, if it does

Nic Cunningham, MS, NRP, FO

4:36 pm

It doesn't, for now. We struggle in that arena, mightily.

Nic Cunningham, MS, NRP, FO

Mobile • 19h ago

...

TUESDAY

Trevor Wilson, MSML, CFO

4:40 pm

What's your comfort level with me saying I got this from you and that I have your plan? I have originally written everything to be vague - no names of people or departments - but would benefit from being more specific. I'm good either way, to be clear.

Nic Cunningham, MS, NRP, FO

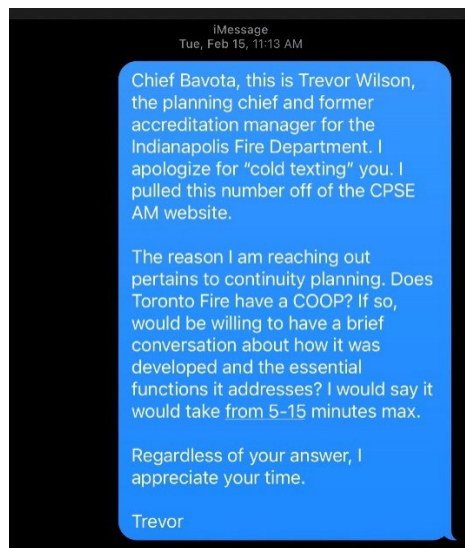
4:41 pm

I'm perfectly cool with it. Feel free to use my

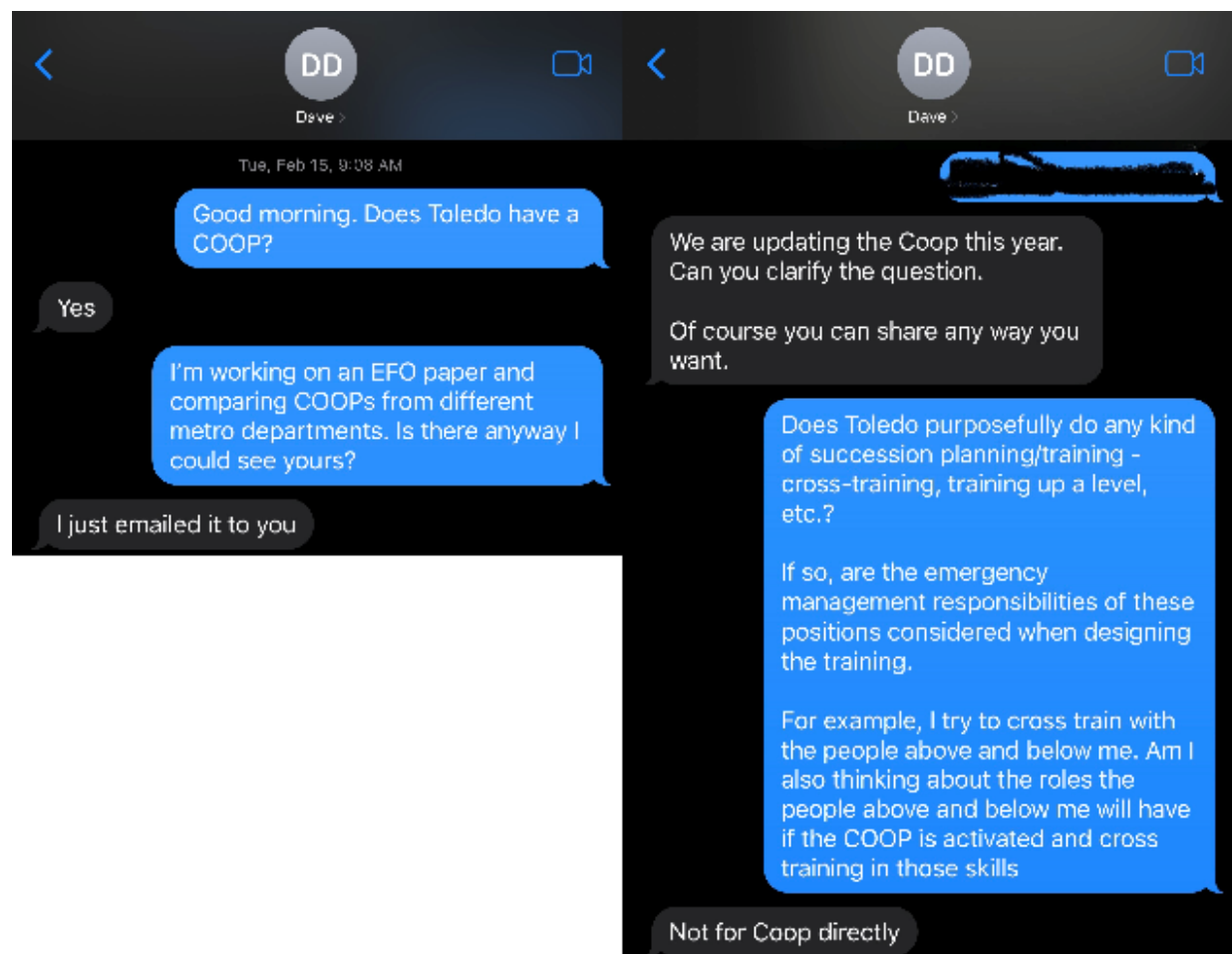
Appendix C

Text Message Research

Text messages were sent out to Dave Dauer, Kyle Fekete, Tony Bavota, Chaz Browning, and Dwayne Church on the morning of February 15, 2022. All but Church replied, and Browning stated that his department did not have a COOP. Fekete attempted to gain permission to share his COOP but was unsuccessful. Bavota and the researcher scheduled a time to discuss COOP topics, but it was after the research period had closed. Below is the template used to cold text Bavota, Browning, and Church.



Dauer was asked if Toledo had a COOP and if they were willing to share. He stated they did, and they would. Dauer then called the researcher, and they had a brief conversation about COOP planning and the upcoming consortium meeting. He stated that Toledo had no unusual MEFs and that their plan is reviewed every six months by the command staff and annually by the special operations and homeland security divisions. He supplied the COOP via email later that morning. The researcher sent another text on February 17, 2022, at 11:07 AM EST, to ask Toledo if any COOP-specific succession training is taking place. He stated that it was not. He then granted permission for the researcher to use Toledo and his name in the paper.



Appendix D

Grand Rapids Research

The researcher emailed Scott Gray (Grand Rapids) on February 15, 2022, at 9:35 AM EST, asking he would be willing to share Grand Rapids's COOP. He replied that they were in the process of building a COOP and passed the request on to the emergency manager, Allison Farole. Gray responded later in the day that they would not be able to share the COOP but that Farole was willing to share information on their formation process. The researcher sent a follow-up email to Farole on February 16, 2022. The red text represents her replies.

Who is responsible for producing the fire department's portion of the COOP? How were they chosen and what processes did they employ? The Office of Emergency Management has taken the lead to coordinate all departments to work on developing department portions of the City's COOP. To do this, I asked Department Heads to identify a primary and secondary liaison to work on this 9-month long project. For the Fire Department, the Chief and Asst. Chief identified themselves as those liaisons. All liaisons participated in a 4 workshops to dive into elements of the COOP. I have attached my timeline to provide some context on this process.

Did they identify any mission essential functions that may be unique compared to other departments? All departments were asked to review mandates, state and federal laws, and the City Charter to determine what their Mission Essential Functions were. Obviously, the Fire Department is focused on fire suppression and saving lives.

Does the document call for ongoing succession planning and cross-training outside of major events? Each department has been tasked with developing a succession plan for each position that is key to performing the identified mission essential functions. All elements of the COOP are tied back to the identified Mission Essential Functions of each department.

Finally, does the fire department's portion of the COOP account for the following: Yes

Essential functions
Orders of succession
Delegation of authority
Continuity facilities
Continuity communications
Essential records management
Human resources
Testing, training, and exercising the plan
Devolution of control and direction
Reconstitution

Any other insight or advice you could provide IFD as we begin the process of creating our first COOP would be greatly appreciated. Thank you for your time!

I have attached my slide decks I used to walk through each element of the COOP and the worksheets I provided to help get departments started on gathering appropriate information. It is great the Fire Department is working on developing its own COOP, but I highly recommend the City of Indianapolis develop one as an organization. One of the key things that has been shown through my experience with COOP is the connections between departments and external partners to perform mission essential functions. So it is important for all departments to do this work together so there is no silo'ing in the development process and to better understand the dependent and interdependencies for each mission essential function. For example, what happens if the water department is no longer able to provide water, how does that impact the fire department to perform their mission essential functions? So, again it is VERY important to have the whole City organization to work on developing the COOP together.

Let me know if you have additional questions or thoughts.

In addition to these answers, she provided several documents used during their planning process. She sent COOP Workshop PowerPoint presentations and worksheets used with each city agency. Perhaps the most useful tool she sent was a sample Gantt chart (see below).

[illegible]

Appendix E

Email Research

In addition to Grand Rapids, emails were sent to Leonard Chan (Houston), Phillip Battles (Columbus), and David Farnum (Charlotte) on the morning of February 15, 2022. The emails stated that the researcher was working on a paper for the executive fire officer program and attempting to design a COOP for IFD. It went on to ask if the recipient would be willing to share their department's COOP. Chan replied immediately with a copy of Houston's COOP. Houston's COOP provided enough information to deduce who created it, how often it is reviewed, the CCEs covered, and the MEFs. He would give permission to use his name on February 23, 2022, via email. Farnum replied on February 22, 2022, with additional contacts to pursue. Battles did not reply.

On February 20, 2022, at 10:18 PM EST, Brian Schenking (Summit, CO) emailed the researcher to ask for information for his applied research project. The researcher obliged and asked Schenking to return the favor less than an hour later. Schenking was asked, "Any chance you can tell me who completed your COOP, how they did it, and/or if succession planning is part of it?" Schenking replied the next morning at 10:28 AM with the following:

Our COOP was completed by one of our firefighters who was working on a master's degree, which was the topic for one of his classes so it worked out well at the time. He put the documents together following a federal template and met with the chiefs to build it out based on their input. Regrettably, it is not currently part of our succession planning, but that is a good idea.

Appendix F

IAFC KnowledgeNet Direct Messages

The researcher sent out two direct messages through the IAFC KnowledgeNet system. The targets were selected because they had expressed a willingness to share their COOP documents through message board posts pertaining to succession planning and continuity. The first was sent to Frank Blackley on February 21, 2022. Blackley replied later that night, stating that he was now retired but would ask his former department of Wilmington to send the researcher their COOP. He made good on his promise, delivering the COOP just before noon on February 25. Unfortunately, it arrived too late to be included in this research, but it will be used to inform IFD's methodology. Brian Federmann was messaged on February 21, 2022, but he did not reply. Below is the direct message sent to Blackley.



From: [Trevor Wilson](#)
To: [Frank Blackley](#)
Sent: 2/20/2022 9:10:38 PM
Subject: **COOP**
t:

Chief Blackley,
Good evening. I am performing some last-minute research for my year three EFO paper. I came across an old post where you offered to share Wilmington's COOP. If that offer still stands, I would love to see it to compare it to the dozen or so I have already collected. Also, if you could provide any insights into who was involved with its creation, how they were chosen, and how they made the document, it would be greatly appreciated. Also, does your COOP plan call for ongoing succession training?

Thanks for your time regardless!
Trevor Wilson
Indianapolis FD, IN

Appendix G

Non-IFD Interviews

Jack O'Tain was interviewed on February 2, 2022 (Jack O'Tain, personal communication, February 10, 2022). When asked if the Office of Audit and Performance (OAP) had a COOP plan, he said they did not (J. O'Tain, personal communication, February 2, 2022). The researcher then asked if, to O'Tain's knowledge, any of the other city agencies had a continuity plan (Jack O'Tain, personal communication, February 10, 2022). He stated he did not believe they did and that they have historically looked to Emergency Management for guidance on such issues (J. O'Tain, personal communication, February 2, 2022). He commended IFD's efforts to create a COOP and shared his experience with continuity planning in the private sector (J. O'Tain, personal communication, February 2, 2022). The preceding description is the full account of the interview.

Jacob Spence was the second person interviewed. The interview took place over the phone (J. Spence, personal communication, February 15, 2022). Spence was initially asked if the MESA Emergency Management Division had a COOP. He stated that the *Marion County Comprehensive Management Plan (CEMP)* served that purpose, but it was out of date (J. Spence, personal communication, February 15, 2022). The researcher asked if he was aware of any other agencies in the county that had a proper COOP, to which he answered he was not (J. Spence, personal communication, February 15, 2022). The researcher inquired about the difference between the *Marion County Multihazard Plan (MCMH)* and the *CEMP* (J. Spence, personal communication, February 15, 2022). Spence explained that the Office of Sustainability designed the *MCMH* with grant requirements in mind (J. Spence, personal communication, February 15, 2022). He also said that control of the document would remain with that office

until the *CEMP* updates were complete (J. Spence, personal communication, February 15, 2022).

A brief discussion occurred where Spence reiterated that his agency's primary objective was to ensure that each city agency had a continuity plan and that those plans were worked together and within the framework of the *CEMP* (J. Spence, personal communication, February 15, 2022).

The preceding description is the full account of the interview.

Appendix H

IFD Interviews

The third interview was with Michael White. When asked if there were any existing programs that IFD could fold into its COOP, White responded that the department did have a critical staffing plan (M. White, personal communication, February 23, 2022). However, he noted that the plan only spoke to the different staffing stages with no mention of triggers that would cause escalation (M. White, personal communication, February 23, 2022). White was unaware of any formal plans regarding alternative apparatus or facilities (M. White, personal communication, February 23, 2022). He pointed out that many facilities (including headquarters) would relocate to the unused third floor of the training academy (M. White, personal communication, February 23, 2022). White also mentioned that the department's mutual aid agreement with one local partner called for only one ambulance to be shared (M. White, personal communication, February 23, 2022). He added that emergencies have always been covered on a case-by-case basis and that overtime had been the standard remedy for staffing concerns (M. White, personal communication, February 23, 2022). The preceding description is the full account of the interview.

Jerry Martin provided the fourth interview. Martin expressed concerns that only 12 of the 44 IFD stations currently had backup generators, and one of those was broken (J. Martin, personal communication, February 23, 2022). Other houses have been wired to be powered by a pull-behind generator (J. Martin, personal communication, February 23, 2022). He pointed out that the department utilized modified response strings during surge events and LiveMUMS to determine when apparatus are needed to backfill an area (J. Martin, personal communication, February 23, 2022). Finally, he spoke of the department's strong relationships with most of its

neighbors (J. Martin, personal communication, February 23, 2022). The preceding description is the full account of the interview.

The fifth interview was with Matt Henss. Henss spoke about MESA's continuity of communications plan (M. Henss, personal communication, 2022). He was unsure that the plan existed as a single document but would follow up on it (M. Henss, personal communication, 2022). He stated that MESA was working with the other public-safety answering points (PSAP) to create seamless connectivity between the organizations (M. Henss, personal communication, 2022). He then pointed to the use of AT&T's FirstNet as another continuity measure (M. Henss, personal communication, 2022). The preceding description is the full account of the interview.

Kevan Crawley provided the final interview. Crawley stated that logistics had maintained many contracts to remove hurdles and decrease wait times (K. Crawley, personal communication, February 23, 2022). He gave the example of the contract with Pierce allowing IFD to immediately purchase a stock tanker at the contract price, eliminating the need to redesign and bid out every time the department needs one (K. Crawley, personal communication, February 23, 2022). He stated that IFD is subject to supply chain issues like everyone else (K. Crawley, personal communication, February 23, 2022). The city has contracts with three fuel vendors, but those will likely only be sufficient for the short term in the face of a city-wide fuel outage (K. Crawley, personal communication, February 23, 2022). Like OAP, IFD has relied on Emergency Management to take care of their needs in the face of a disaster, but even they could not provide the needed resources during the early days of the pandemic (K. Crawley, personal communication, February 23, 2022). Changing the response model is another way IFD has adjusted when facing staffing shortages (K. Crawley, personal communication, February 23, 2022). The preceding description is the full account of the interview.

Appendix I

List of Acronyms

- BCM - business continuity management
- BCP - business continuity planning
- BIA - business impact analysis
- BPA - business process analysis
- CCE - continuity capability element
- CEMP - Comprehensive Emergency Management Plan
- CFAI - Commission on Fire Accreditation
- CGC - FEMA's Continuity Guidance Circular
- COG - continuity of government
- COOP - continuity of operations plan
- CPG - Comprehensive Preparedness Guide
- EMAP - Emergency Management Accreditation Process
- EMS - emergency medical services
- EOP - emergency operations plan
- FCD - USDHS Federal Continuity Directive
- FEMA - Federal Emergency Management Agency
- FIS - Fire Investigations Section (IFD)
- HAZMAT - hazardous materials
- HSEEP - Homeland Security Exercise and Evaluation Program
- IAEM - International Association of Emergency Managers
- IAFC - International Association of Fire Chiefs

- IAFF - International Association of Fire Fighters
- IFD - Indianapolis Fire Department
- IMPD - Indianapolis Metropolitan Police Department
- INTF-1 - Indiana Task Force 1
- IT - information technologies
- MCMH - Marion County Multi-Hazard Plan
- MEF - mission essential function
- MESA - Metropolitan Emergency Services Agency
- NEF - national essential functions
- NETCL - National Emergency Training Center Library
- NFA - National Fire Academy
- NFPA - National Fire Protection Association
- OAP - Office of Audit and Performance (City of Indianapolis)
- PMEF - primary mission essential functions
- PSAP - public-service answering point
- RRS - readiness reporting system
- SME - subject matter experts
- SOP - standard operating procedure
- THIRA - threat and hazard identification and risk assessment
- USDHS - United States Department of Homeland Security
- USFA - United States Fire Administration

Appendix J

Sample Department Guide

Sample Metropolitan Departments

- California department
- Dallas Fire Rescue (TX)
- Gwinnett County Fire and Emergency Services (GA)
- Houston Fire Department (TX)
- Lincoln Fire & Rescue (NE)
- South Metro Fire Rescue Authority (CO)
- Toledo Fire and Rescue Department (OH)
- Virginia department

Sample Non-Metropolitan Departments

- Escambia County Fire Rescue Administration (FL)
- Grand Rapids Fire Department (MI)
- Hampton Fire Department (NH)
- Harrisonburg Fire Department (PA)
- Massachusetts Fire District #14 (MA)
- Newton Fire/EMS Department (KS)
- San Ramon Valley Fire Department (CA)
- Spokane Valley Fire Department (WA)
- Summit Fire and EMS Authority (CO)