# Addressing Gaps in Command Capability and Experience in the Copley Fire Department

Chris Bower

Copley Township Fire Department, Copley, Ohio

Certification Statement

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 language, ideas, expressions, or writings of another.

Signed: 

Chris Bower

## Table of Contents

**Abstract**

The main problem is Copley Fire Department lost command capability and experience due to retirements. The purpose of this research was to determine how to address gaps in command capability and experience at Copley Fire Department. Using a descriptive research method, the author investigated if other fire departments experienced similar gaps and what solutions they used to address them. The identification and effectiveness of these solutions was explored for potential future Copley Fire Department use. Personal interviews, a literature search, current practices of Copley Fire Department and pilot testing informed the design of the Fire Department Incident Command Capability and Experience Questionaire. The questionnaire was distributed to 80 fire departments in North-Eastern Ohio. A majority (59%) of departments reported having experienced gaps in command capability and experience. The most effective solutions reported for these gaps included Blue Card, Fire Officer courses, in-house training, Fire Safety Inspector course, Fire Instructor course, incident command simulations, and on-scene mentoring during live fire operations. Copley Fire Department should continue all current requirements. In addition, Copley Fire Department should require all full-time personnel to complete Blue Card or the National Fire Academy's Command and Control courses, as well as become certified in Fire Officer I and II. Incident command policies and SOGs must be a priority. All personnel should train on incident command regularly using After Action Reports, Near Miss reports, National Institute of Safety and Health Line of Duty Death reports, simulations and on-scene mentoring during live fire operations. Helmet-mounted video cameras should be used for later critiques. ICS should also be used in full-scale exercises, as well as real-world situations.

Addressing Gaps in Command Capability and Experience at the Copley Fire Department

## Introduction

Copley Township, located in Northeast Ohio, borders the city of Akron and covers approximately 20.4 square miles of varied geography. Copley Township has commercial, industrial, retail, residential and agricultural areas. Copley Township's population according to the 2010 census was approximately 17,304 residents. The Copley Fire Department began as a volunteer department is 1937 and has evolved into a combination fire department with 18 full-time and 44 part-time employees. In 2018, Copley Fire Department responded to 2,745 calls for service from two stations. The Copley Fire Department has various apparatus including three advanced life support ambulances, three pumpers, one water tender, one aerial ladder truck, and one grass fire truck. All Copley Fire Department supervision comes from its full-time staff, consisting of a Chief, Assistant Chief, Captain, six Lieutenants (two per shift to cover each station) and a Chief Fire Inspector. The minimum staffing requirement is four firefighter/paramedics at station one and three at station two with supervisory staff included at each location.

The population of Copley Township increased from 11,130 in 1990 to 17,304 in 2010 (Ohio Development Services Agency Office of Research, 2018; U.S. Census Bureau, 2005). As the population of the Township increased so has the demand for service from the fire department. The call volume for the Copley Fire Department increased from 1,020 in 1990 to 2,059 in 2010, an increase of 102% over twenty years (M. Benson, personal communication, February 5, 2018).

Due to increasing call volume and operational changes at the Copley Fire Department station two, three additional Lieutenant positions were added as of January 1, 2018. This change, in addition to recent retirements, has decreased the experience level among the officer

ranks in the Copley Fire Department, because the new officers assigned to station two were promoted with less experience than past company officers.

As the Fire Chief, the author has the knowledge and experience to describe issues related to the command capability and experience of the Copley Fire Department personnel. The main problem is that the Copley Fire Department has lost command capability and experience due to retirements. The purpose of this research is to determine how to address gaps in command capability and experience at the Copley Fire Department. Using a descriptive research method, the author intends to answer the following questions. Have other fire departments experienced gaps in command capability and experience? What solutions have other fire departments used to address gaps in command capability and experience? How effective have other fire departments' solutions been to address gaps in command capability and experience? What solutions should be used by the Copley Fire Department to address gaps in command capability and experience?

## Background and Significance

All Copley Fire Department officers are responsible for incident command duties. Between 2015 and 2017, three Copley Fire Department Lieutenants retired. Each of these Lieutenants had a minimum of 23 years of experience as full-time fire officers at the time of retirement. Copley Fire Department also added three full-time Lieutenant positions promoted from within at Copley Fire Station two on January 1, 2018, which doubled the number of front-line officers from three to six. As of that date, all six Lieutenants each have less than three years of experience as full-time fire officers. In August of 2018, the Copley Fire Chief retired with more than sixteen years of experience as a full-time fire officer. These factors combined to decrease the level of command capability and experience in Copley Fire Department officer ranks. According to the Copley Fire Department Assistant Chief, the main concerns are a lack of

command experience and training which would enable fire officers to safely and confidently operate as incident commanders (K. Moore, personal communication, October 18, 2018). Assistant Chief Moore added that at one time the Copley Fire Department had an Officer In Charge (OIC) mentoring program; however, many of the mentors have since retired. The Copley Fire Department responded to 34 building fires, 116 vehicle crashes and 1923 EMS calls for service in 2017 (Benson, 2018). Copley Fire Department Lieutenant Jeff Varga believes the department has too few structure fire calls to feel confident acting as the incident commander on such incidents (J. Varga, personal communication, October 18, 2018). Requirements based on experience are addressed in the Copley Fire Department Collective Bargaining Agreement which requires a firefighter to have a minimum of five years full-time experience before they can be called back for overtime to fill an OIC position (Copley Township and Local 3130, 2018). The most recent Lieutenant promotion, however, required a minimum of five years service with the Copley Fire Department which could include prior part-time service (K. Moore, personal communication, October 18, 2018).

All Copley Fire Department job descriptions specifically require personnel to meet the current National Incident Management System (NIMS) standards. According to the Copley Fire Department NIMS Compliance Officer, the Summit County Emergency Management Agency issues annual updated guidance on the NIMS current standards (M. Jones, personal communication, October 17, 2018). This guidance has been implemented at the discretion of the Copley Fire Chief based on Copley Fire Department operations (K. Moore, personal communication, October 18, 2018). Except for three legacy part-time employees, all Copley Fire Department personnel are also required to be State of Ohio certified as a Firefighter II and

Paramedic. All full-time personnel are additionally required to have a State of Ohio Fire Safety Inspector certification.

All Copley Fire Department officers, except the Chief Fire Inspector, are required to be State of Ohio certified as a Fire or Emergency Medical Services (EMS) instructor. The job descriptions of Lieutenant and Captain require the level of "minimum competence" according to the National Fire Protection Association (NFPA) 1021-Standard for Fire Officer Professional Qualifications. The Chief and Assistant Chief are required to complete Fire Officer I and II courses. However, these job descriptions do not specifically mention NFPA 1021-Standard for Fire Officer Professional Qualifications (J. Marshall, personal communication, October 18, 2018).

As of the current referenced standard, all Copley Fire Department personnel complete NIMS Incident Command System (ICS) 100 and 700 courses. NIMS ICS 200, 300, 700 and 800b are additional requirements for Lieutenants and Captains. Both the Chief and Assistant Chief additionally complete NIMS ICS 400 and 702. Additional training in incident command is encouraged by the Copley Fire Department administration. Some Copley Fire Officers have also completed the Health and Safety Officer (HSO) and Incident Safety Officer (ISO) courses as well (K. Moore, personal communication, October 18, 2018).

Copley Fire Department full-time firefighters are not required to meet the requirements of NFPA 1021-Standard for Fire Officer Professional Qualifications. However, they are encouraged to attend Fire Officer I and II, and as a result, many have completed both courses. One Copley Fire Lieutenant has completed Fire Officer I, II, III, and IV. One Lieutenant, one full-time firefighter, and the current Copley Fire Department Operations Captain have completed

the NFA Command and Control of Incident Operations and Command and Control Decision-Making at Multiple Alarm Incidents (K. Moore, personal communication, October 18, 2018).

The Copley Fire Department trains on incident command at least once annually and participates in live fire training in acquired structures which also incorporates incident command components. All structure fires and any other significant events involving the Copley Fire Department are followed by an informal and formal After Action Review (AAR). There have been no established competencies for incident command at the Copley Fire Department nor is there a formal succession program in place.

Copley Fire Department requires NIMS compliance as it applies to "all fire department activities including emergency incidents, non-emergency incidents, special events, drills, exercises, and any other hazardous or potentially hazardous situation" (Copley Township, 2009, Section FD150). The Copley Fire Department has a policy manual. However, there are no Standard Operating Guidelines (SOGs) or Standard Operating Procedure (SOPs) in place (K. Moore, personal communication, October 18, 2018). Copley Fire Lieutenant Andy Ayoup believes there is almost no guidance for incident commanders without SOGs except for past practice (A. Ayoup, personal communication, October 19, 2018). Copley Fire Department has largely relied on developed best practices and institutional knowledge to inform unwritten operational standards and fill the vacuum left by absent of formal SOGs, or SOPs (K. Moore, personal communication, October 18, 2018).

The subject of command capability and experience relates directly to the Executive Analysis of Fire Service Operations in Emergency Management course as it is a core component of emergency operations. This subject is also consistent with the United States Fire Administration's strategic goal to "enhance the Fire and Emergency Services' Capability for

Response to and Recovery From All Hazards" (U.S. Fire Administration (USFA), 2013, p. 1). The author hopes to improve the command capabilities and safety of Copley Fire Department personnel for emergency response to all hazards in and around Copley Township.

## Literature Review

Jensen and Thompson (2016) reviewed the current literature on incident command. They noted ample literature on incident command based on opinion and theory. However empirical research was less abundant (Jensen & Thompson, 2016).

Globally, the incident command system originated from a rigid military model which was modified to be more flexible and meet the needs of incident management involving multiple organizations during rapidly changing conditions (Boersma, Comfort, Groenendaal, & Wolbers, 2014). The system relies in part on the idea that the first person on the scene garners essential information which drives the decision-making process through the incident (Boersma et al., 2014). The authors argue that the goals of emergency operations are universal in all countries: "to (1) save lives; (2) protect property; and (3) maintain and restore the continuity of public services to the community" (Boersma et al., 2014, p. 1).

ICS, as it is known in the U.S. today, is largely a result of the California wildfires in 1970 which encroached into the urban interface (Gainey, 2015). After the devastation of these fires, a coalition of organizations came together to develop a system that could accommodate incidents in different geographies which involved multiple agencies (Gainey, 2015). The working group known as Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) recognized the need for a system with a common structure and terminology (Gainey, 2015). The product which came from this group became the scalable incident command system which was later incorporated into NIMS (Brown, 2004). FIRESCOPE ICS

was developed to accommodate large, complex, multijurisdictional incidents and was not only adopted as a mainstay for NIMS in 1982 but was also incorporated as a model for ICS by the National Fire Academy (NFA) in the following year (Ward, 2015). During the same period, Alan Brunacini was developing Fire Ground Command (FGC) and published the *Fire Command* textbook which concentrated on the incident management of smaller everyday emergencies (Ward, 2015). Over time there was a recognized desire to reconcile the two systems and in July of 1990 meetings began to merge FIRESCOPE ICS and Fire Ground Command (National Incident Management System Consortium (NIMSC), 2014). These two groups, NFA and several other national organizations formed the National Fire Service Incident Management System Consortium and in 1993 successfully merged ICS and FGC into the Incident Management System (IMS). The group now meets every five years for revisions and updates (NIMSC, 2014).

Further standardization and integration of the incident command system came as a result of the terrorist attacks on September 11, 2001, after which President, George W. Bush issued Homeland Security Presidential Directive 5 establishing NIMS (Brown, 2004). The directive was a mandate for a common approach to incident management at the local, state, and federal level (Brown, 2004). ICS subsequently became a critical component of NIMS and the resulting incident command system known as NIMS-ICS (Brown, 2004).

Neamy (2011) discussed how NIMS integration grew after the initial release. He noted, after NIMS was released, FIRESCOPE made changes to the Field Operations Guide (FOG) to make it NIMS compliant. The NFPA also took action and revised NFPA 1561: Standard on Emergency Services Incident Management System and NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Programs, so that both standards were NIMS compliant (Neamy, 2011). In January of 2007, the National Integration Center

(NIC) issued a NIMS alert which encouraged the adoption of both standards in the hope it would help jurisdictions to achieve overall NIMS compliance (Neamy, 2011).

Evidence of the importance of NIMS ICS to the fire service came from a search of the NFPA website. Incident command appeared in 55 codes, or standards and Incident Management System appeared in 56 codes, or standards (NFPA, 2018). NFPA 1021: Standard for Fire Officer Professional Qualifications is one standard which applies the subject of incident command and fire officers. This standard specifies the minimum job performance requirements (JPR)s for Fire Officer I, II, II, and IV which includes the subjects of incident command and incident management (NFPA, 2018). The *Fire Officer Principles and Practice* textbook was written to meet the criteria outlined in NFPA 1021 (Ward, 2015).

The significance of the incident commander position is also well documented. According to the Federal Emergency Management Agency (FEMA), the Incident Commander is:

> The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site. (FEMA, 2008, p. 5)

Brunacini (2010) describes the job of the fireground incident commander as an incident "coach," and as someone who must safely, realistically and "continuously evaluate and balance the connection between the workers and the work" (p. 39). Brunacini also identified one of the many challenges for an incident commander was matching limited resources to a larger number of tactical needs. He advocates the analogy of the IC being the coach who must "develop a different set of plays, moves, and formations that actually match the number and response times

of the available players" (p. 39). According to Brunacini (2010), to reconcile the disparity of needs and resources, the IC must be willing to "write off burning property and move on to protecting uninvolved property that is presently savable" (p. 39).

Przborowski (2015) emphasizes the challenge and significance of incident command by arguing "the toughest job on the fireground has to be that of the first-arriving company officer who can set the incident up for success or failure, depending on his action or nonaction," (p. 55). Przborowski claims the second toughest job goes to the first chief officer on scene who must put together a quick understanding of what happened thus far and correct deficiencies that may be left by the initial incident commander. Przborowski goes so far as to say "everything begins with the first-arriving officer, who is typically the company officer and who can make or break the outcome of the incident" (p. 57). Brunacini views incident command from a customer service perspective. He argues "our customers call us when they are having a really bad day" (Brunacini, 2003, p. 527). Brunacini believes the incident commander's role is to organize the collective resources brought to bear under a single incident action plan (IAP) to protect life, stabilize the incident and stop the loss. Brunacini goes on to say "well-managed incidents produce better outcomes than poorly managed ones" (p. 528).

One of the most recognized consequences of incident command and the incident commander is that of firefighter safety. Seidel (2014) claims the most important priority for an incident commander is life safety and as such, risk assessment is a critical skill for incident commanders which will allow them to make appropriate risk-reward decisions. Kastros (2011) claims incident commanders sometimes fail to recognize the full scope of an incident before making decisions. He also argues risk assessment is one of the most important things an incident commander can do to prevent line of duty deaths (LODDs). He explains "all too often we do not

obtain a sufficient and an ongoing size-up, pointing out, again, that inadequate risk assessment is the No. 1 causal factor of LODDs" (Kastros, 2011, para. 3). He goes on to highlight strategy/tactics, SOGs, and ICS as the three things necessary to maintain safety, efficiency, and effectiveness during emergency operations. Kastros (2011) advocates an incident-driven approach to incident command which calls for the incident commander to adjust strategy and tactics according to the ever-changing dynamics of the fire ground, noting that a change of only one factor can dramatically alter the priorities of an incident. Kastros advocated an incident-driven approach which "will help to ensure ongoing size-up, clearer communications, better accountability, and more overall safety" (para. 81).

Kastros (2016) discussed the top five causal factors in fireground LODDs (also known as the NIOSH 5) according to the National Institute of Safety and Health (NIOSH). He lists these causal factors as improper or inadequate risk assessment, incident command, accountability, communications, and SOGs or failure to follow SOGs. To prevent such failures, Kastros emphasized the importance of using ICS and training on incident command. He claims "progressive use of ICS at structure fires creates a balance between aggressive and rapid tactical deployment of resources to save lives and effect proper risk assessment, communications, and accountability to ensure that the risk-vs.-gain calculation is appropriate" (p. 62).

Research published in 2006 showed one of the clusters which contribute to firefighter line of duty deaths was "incident command, training, communications, standard operating procedures, and pre-incident planning" (Moore-Merrell, McDonald, Zhou, Fisher, & Moore, 2006, p. 2). Kunadharaju, Smith, and DeJoy (2011) suggested "under-resourcing, inadequate preparation for/anticipation of adverse events during operations, incomplete adoption of incident command procedures, and sub-optimal personnel readiness" as the most significant factors in

firefighter line of duty deaths (p. 1171). The analysis was derived from firefighter fatality investigations done by the National Institute for Occupational Safety and Health NIOSH between 2004 and 2009 (Kunadharaju et al., 2011). While discussing operational decision-making, Cohen-Hatton, Butler, and Honey (2015) claim human error is the most commonly cited cause of firefighter injuries in the U.K.

Jensen and Waugh (2014) highlighted the principles of ICS as a "hierarchical modular organization, span of control, establishment and transfer of command, chain of command, unity of command, and accountability" (p. 6). They examined the use and effectiveness of the incident command system and suggested ICS has not been used consistently at any level even after the federal government mandated its use as part of NIMS. However, in the course of their research, they discovered many factors which influence how often and how effectively ICS is used. Jensen and Waugh point out that ICS is used more often and most effectively by career personnel in organizations where the intent of ICS is a well understood and shared part of the mission. Moreover, personnel who have been trained in ICS and used it in full-scale exercises, as well as real-world situations, are best able to fully exploit the benefits of ICS (Jensen & Waugh, 2014). The authors add that pre-incident planning and post-incident analysis within an organization and in conjunction with partner agencies also add to the likelihood that ICS would be utilized effectively. Other factors which contribute positively to ICS effectiveness include having a local emergency management culture and deploying ICS on routine calls (Jensen & Waugh, 2014). Jensen and Waugh noted a dearth of scholarly articles on ICS and consequently recommended more research on the subject.

Seidel (2014) discussed the elements of successful incident command and how to cultivate effective incident commanders. He believes "to be successful in the command and

control of an incident, there has to be a true understanding of what the incident command system (ICS) is all about" (p. 85). He added training in all-hazard incident management using the classroom, and practical experience is a necessary precursor to developing qualified and effective incident commanders. Shouldis (2012) cautions "promotion does not automatically translate into an informed incident commander" (p. 83). He identifies training as the "cornerstone of emergency services" (Shouldis, 2012, p. 85). Shouldis (2012) also believed there was clear evidence as to the value of the incident command system.

The literature on experience as it relates to incident command effectiveness was challenging to find. Cohen-Hatton et al., (2015) recognized the challenge faced by incident commanders as the opportunities for command experience decline with an associated drop in incidents in the U.K. fire service. They examined the decision-making process of the U.K. fire service incident commanders under real operational conditions. According to the authors, the current National Fire Policy for the U.K. fire service dictates a three-stage reflective decision-making process which progresses from situation assessment (SA) to plan formulation (PF) and finally to plan execution (PE). Cohen-Hatton et al., (2015) describe this process as reflective. Their investigation found a majority of incident commanders were reflexive in their decision making as evidenced by most transitioning from SA directly to PE. The authors note the dominance of reflexive decision-making is consistent with the Recognition-Primed Decision-making (RPD) model published in earlier research. Their results show a combination of reflexive and reflective processes at work in the decision making of U.K. incident commanders. These findings should be considered for training and operational guidance (Cohen-Hatton et al., 2015).

Gasaway (2014) addressed training and experience while explaining the RPD process in fire incident command. According to Gasaway, the discovery of the RPD process is credited to Dr. Gary Klein who observed fireground incident commanders during real-world emergency operations. Klein discovered effective decisions produced through RPD is based on knowing what is going on, tacit knowledge of the subject at hand, ability to produce a hypothetical model of future events and possess the confidence to make decisions based on incomplete information (Gasaway, 2014). The RPD process is a product of prior knowledge and experience (Gasaway, 2014). Gasaway recognized that as fire incidents decrease, opportunities for fireground experience also decrease. He claimed that the human brain does not differentiate between real-world emergencies and training simulations.

> Aspiring fireground commanders can preload their memory with images of fire incidents from participating in realistic training scenarios and simulation exercises; reading near-miss reports, case studies, and line-of-duty death reports; watching videos of fire incidents; and talking with experienced firefighters to learn the lessons from past fires (Gasaway, 2014, p. 6)

Gasaway (2014) also asserted his belief that "the first quality a commander must possess and maintain is good situation awareness" (p. 3) which consists of perception, comprehension, and projection. He elaborated that the components of this awareness as perception-taking in all available information, comprehension-making sense of gathered information, and projection-accurately predicting future events (Gasaway, 2014). Johnson (2016) explained the importance of the incident commander keeping a broad perspective on incident operations and knowing where firefighters are and what they are doing at all times. "In a fire scene situation, the Incident Commander (IC) cannot be in the thick of operations and continue to give orders, he has lost

perspective. He must remove himself and see the big picture" (p. 91). According to Gasaway (2012), the RPD model and situational awareness are inextricably linked in the mind of the fireground incident commander. Gasaway (2012) highlighted research indicating barriers to situational awareness are a significant factor in fireground near-miss reports.

Lipshitz, Klein, Orasanu, and Salas (2001) refer to the RPD process as the prototypical Naturalistic-Decision-Making (NDM) model. Their research evaluated other variations under the NDM framework as well. Lipshitz et al., (2001) claimed the RPD process had been successfully reproduced in the military, commercial aviation, and other private industries showing the RPD model is the dominant decision-making strategy. Rosqvist et al., (2017) agree, noting in situations with limited information and time the RPD type decision-making process has been observed in "ICU nurses, firefighters, commanders, chess players, and stock market traders" (p. 207). Rosqvist et al., (2017) believed the three dimensions of situational awareness are also necessary for successful decision making and is complementary to the RPD process. They claim such awareness comes from perceiving essential factors at a particular point in time, comprehending the meaning of those factors and projecting likely future events. Their research was designed in part to address the need for adequate training methods of incident commanders in the European Union (EU). Rosqvist et al., (2017) recognized the scarcity of real-world incidents and the expense of large-scale exercises as hindrances to producing competent incident commanders. The authors reviewed the decision-making process of firefighters and incident commanders using computer-aided simulations and evaluated the performance of trainees compared to experienced commanders under the same conditions (Rosqvist et al., 2017). It is worth noting the key performance indicators (KPIs ) used in their research were derived from the responses of other experienced incident commanders whose actions were considered the standard

for comparison. Their work showed virtual training simulation combined with post scenario review are useful tools in incident command training. Gasaway (2012) found situational awareness is not a finite skill. To the contrary, incident commanders can improve situational awareness through command training and hands-on experience under the guidance of experienced mentors (Gasaway, 2012).

McLennan, Pavlou, Klein, and Omodei (2005) recognized RPD as the most widely accepted concept related to incident command decision-making. However, they believe the RPD model is inadequate to explain decision making in "unusual and complex incidents" (p. 10). They maintain incident command is a complex skill which cannot be mastered merely through classroom instruction. The authors further argue the RPD model does not adequately address the quality or correctness of decisions made by incident commanders. They note the lack of post-incident critiques as a missed opportunity for improved incident command training. According to McLennan et al., "practice does not necessarily make perfect, it may simply make permanent" (2005, p. 11). Their research utilized a helmet-mounted video camera worn by the incident commander during training exercises which were intended to give individual visual perspective for later review. This method was designed to decrease self-consciousness that can impede openness to critique often seen with standard video using an external view (McLennan et al., 2005). This individual video perspective also enhanced the incident commanders ability to recall cues, details, thought processes and psychological basis involved in the decisions made during a training exercise (McLennan et al., 2005). The authors noted the improved recall offered by reviewing the video footage over standard after action reviews without video footage. The video method used in their research enhanced the learning of command and control skills (McLennan et al., 2005).

McLennan et al., (2005) examined video-based learning from one's own experience as the incident commander. Joung, Hesketh, and Neal (2006) researched the efficacy of learning from the experiences of others. They studied the effectiveness of error exposure training for Australian lead firefighters as it applied to incident command. Their research hypothesized error exposure training would lead to better adaptive performance compared to errorless training. According to Joung et al., "Errors are memorable, engage active processing, and help sharpen mental models. The unexpected nature of errors helps reduce excessive dependence on routine operations" (2006, p. 288). Their study used high fidelity simulations to evaluate the performance of incident commanders who were trained using either error exposure or errorless training methods. Their results showed a clear superiority in the performance of the incident commanders trained using the error exposure method. The incident commanders trained with the error exposure method identified more appropriate actions, were more eager to identify mistakes, facilitated more discussion and generally performed better than the group trained using an errorless method (Joung et al., 2006). The authors emphasized the importance of post-incident evaluations as a critical tool for improving adaptive performance.

Learning from errors made by others on the fireground is not a new idea. In 1998, U.S. Congress funded a new firefighter safety initiative to be implemented by NIOSH (Centers for Disease Control and Prevention (CDCP), 2018). The Fire Fighter Fatality Investigation and Prevention Program (FFFIPP) was designed to conduct independent investigations of firefighter line-of-duty deaths and identify preventative measures to mitigate such events in the future (CDCP, 2018). According to the CDCP, NIOSH has investigated approximately 40% of firefighter fatalities since the inception of the program. These LODD reports are available online

and include recommendations from NIOSH to improve firefighter safety and potentially prevent similar outcomes (CDCP, 2018).

Another program designed to learn from past mistakes is the Near Miss program run by the International Association of Fire Chiefs (IAFC). This program was established in 2005 using grant funds from the Department of Homeland Security and Fireman's Fund Insurance Company (Firefighter Near Miss (FFNM), 2019). The program allows for anonymous reporting of fire service near-miss incidents which are shared by the Near Miss website and is the basis for training materials developed to improve firefighter safety (FFNM, 2019).

Williams-Bell, Kapralos, Hogue, Murphy, and Weckman (2015) examined the efficacy of training firefighters and incident commanders using virtual reality and simulations produced with gaming systems. Their belief in the importance of such training methods was based on the premise that "cognitive mechanisms that exist within real environments and virtual environments appear to be analogous" (p. 569). Williams-Bell et al., (2015) suggested simulations, virtual reality, and gaming platforms hold promise to a "safe and cost-effective alternative to practice with real fire" (p. 553).

Seibel (2016) identified several incident command training resources available for fire service personnel which include FEMA NIMS ICS training, the Blue Card Command Series and the National Fire Academy (NFA) Command and Control of Incident Operations (CCIO) series. Specific to the Blue Card Command Series the author notes the system has been endorsed by the International Society of Fire Service Instructors (ISFSI), the IAFC, the Fire Department Safety Officers Association (FDSOA), and the Center for Public Safety Excellence (CPSE). Seibel (2016) also addressed best practices for adult learners. He claims "equally critical components of adult learning are the social learning environment and interactions, and a basic understanding

of the simple concept mechanics" (p. 15). Seibel (2016) emphasized the importance of interaction in a group learning environment in his review of training delivery methods used for incident command. He suggested online delivery methods of ICS training are of limited value if it does not allow for engaging other peer learners or instructors. Ausburn (2004) examined hybrid course design in college-level blended learning environments and concluded adult learners place a high value on two-way communications with classmates and instructors.

NIMS ICS training courses are offered on Internet-based formats as well as traditional classroom environments (FEMA, 2018) The internet-based courses have limited interactivity and are primarily slide presentations with multiple choice knowledge tests at course end. Some NIMS ICS courses include both classroom and simulation labs as part of the training curricula (FEMA, 2018). Classroom-based training is available through the Emergency Management Institute (EMI) at the National Emergency Training Center (NETC) in Emmitsburg, Maryland and by direct delivery through state and local Emergency Management Agencies (FEMA, 2018).

The Blue Card training program was developed to train incident commanders to handle everyday events which fall into the NIMS Type 4 and 5 categories (Blue Card, 2018). The Blue Card course utilizes computer simulations, fire department apparatus, radios, projectors, and whiteboards to create real-world type environments for training incident commanders (Blue Card, 2018). Role-playing, student-peer interaction, and student-instructor interaction are also prominent in the program. Blue Card certification requires successful completion of 40-50 hours of online training (Blue Card, 2018). A three-day simulation lab follows the successful completion of the online portion (Blue Card, 2018). Both portions of the program have minimum passing criteria which must be met to obtain Blue Card certification. Maintaining Blue Card certification requires 36 qualified hours of continuing education and successful

completion of an incident command evaluation every three years. Blue Card offers options to fire departments who choose to complete most if not all requirements locally (Blue Card, 2018).

The NFA also offers a Command and Control of Incident Operations course designed to develop incident command skills for local incidents. This six-day course covers the subjects of problem-solving, pre-incident planning, incident action plans, building construction, fire behavior, company operations, and strategic command (USFA, 2019). The course combines didactic instruction, hands-on and computer-aided simulations to develop incident command strategies through repetitive scenarios followed by post-incident analysis (USFA, 2019). The NFA has additional incident command courses available which cover Command and Control Decision-Making at Multiple Alarm Incidents, Command and Control of Fire Department Operations at Natural and Man-Made Disasters, Command and Control of Fire Department Operations at Target Hazards (USFA, 2019).

The literature on addressing gaps in command capability and experience was very limited outside of Executive Fire Officer (EFO) Applied Research Papers (ARPs). Brant (2015) addressed the anticipated loss of experienced command officers. He recommended the Fairlawn Fire Department pursue joint partnerships with larger, busier departments and Blue Card Certification or similar program. Brant also suggested formal training policies for officers and acting officers, incorporating live fire training in acquired structure and increase the frequency and quality of incident command training. McDonald (2016) identified a lack of incident command training among the officer ranks at Largo Fire and Rescue. McDonald's recommendations included but were not limited to, department-wide evaluations of current command proficiency, regular hands-on ICS training, use of command checklists, attendance at

the NFA Command and Control courses, and utilize computer-based simulations with classroom and practical IC training (2016).

The literature search revealed substantial material on incident command. However, as Jensen and Thompson (2016) observed, there is a dearth of empirical research and material based on opinion and theory. Jensen and Waugh (2014) also noted a lack of scholarly articles on incident command. The NIMS ICS system today is a product of FIRESCOPE ICS and FGC (Ward, 2015). Both systems merged through the efforts of the NIMSC which meets regularly to keep the system up to date (NIMSC, 2014). NIMS ICS was further codified with Homeland Security Presidential Directive 5 (Brown, 2004). NIMS ICS has also been integrated into many NFPA standards (NFPA, 2018). The consequence of the incident command system and the incident commander is also well founded in the literature. Przborowski (2015) argued as the initial incident commander, the first arriving officer's actions will determine the outcome of an incident. Seidel (2014) believes life safety is the top priority for the incident commander. As it relates to firefighter life safety, Kastros (2011) claims incident commanders can mitigate the number one causal factors in LODDs by doing a proper risk assessment. Jensen and Waugh (2014) found the effectiveness of incident command was influenced by the frequency of use, training, attitudes, culture, planning and post-incident reviews.

The literature on training for incident command revealed some recommended best practices. Gasaway (2014) referred to Recognition-Primed Decision making when he claimed training simulations are no different to the human brain than real-world emergencies. Rosqvist et al., (2017) found virtual training followed by post scenario review were useful in incident command training. McLennan et al., (2005) claimed incident command is a complex skill requiring more than just didactic instruction. They believe post-incident critiques using video

from an individual perspective is an effective method of training for incident command (McLennan et al., 2005). Joung et al., (2006) found error exposure training to be superior to errorless methods when they evaluated the performance of incident commanders in high fidelity simulations. Joung et al., (2006) also discovered post-incident evaluations to be essential for improving adaptive performance. Seibel (2016) identified FEMA NIMS ICS training, the Blue Card Command Series and the NFA Command and Control of Incident Operations (CCIO) series as resources for incident command training. Seibel (2016) noted online ICS training had limited value.

The literature on gaps in command capability and experience in other departments was limited. However, Brant (2015) recommended joint partnerships with busier departments, Blue Card Certification, and improved training among the potential solutions for such gaps. McDonald (2016) also suggested improved training among his recommendations for improving incident command capability.

The search and analysis of literature for this applied research paper indicates an opportunity for original research. The literature offered limited guidance on the prevalence of gaps in incident command capability and experience in other fire departments. By extension, there was a limited amount of information on how best to address such gaps or how effective potential solutions would be. The literature did inform this research on possible best practices for effective incident command systems, components, resources, culture, and training. These potential best practices were noted for use in developing a questionnaire for this research and add to the knowledge base on incident command in the fire service.

## Procedures

An online questionnaire was developed using the author's experience, existing policies, past practice, job descriptions, personal interviews, and the training discussed in the background and significance related to the Copley Fire Department informed some elements of the questionnaire (Appendix A). The literature search supported the inclusion of these elements and identified additional items for inclusion in the questionnaire. There was little guidance in the literature on experience as it related to incident command. Pilot testing among fire departments which border Copley Township helped to refine and clarify the questionnaire. An introductory email provided a link to an anonymous questionnaire through SurveyMonkey (Appendix B). The same verbiage was used in all introductory emails which were distributed to 80 fire departments among the membership of the North-Eastern Ohio Fire Chiefs' Association (NEOFCA). The NEOFCA covers twelve northeastern Ohio counties including Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Mahoning, Medina, Portage, Stark, Summit, Trumbull, and Wayne. Questionnaire access was open for three weeks from the date of distribution prior to closing. Data was then exported and analyzed (Appendix C).

This research had several limitations. The response rate was 28% which limited the sample size. The introductory email with the questionnaire link was sent out by the NEOFCA administrative staff. Periodic reminders were not available to encourage participation. Attempts were made to access all members of the Ohio Fire Chief's Association (OFCA); however, OFCA did not grant this request. To encourage participation and completion of the questionnaire, the number of questions and the complexity of responses were limited. There was no method available to ensure only one questionnaire was completed for each department outside of the instructions contained in the introductory email. The anonymity of the survey was put in place

to encourage honesty. However, this made it impossible to follow up on any unclear or questionable responses. This research used some open-ended questions which allowed for subjective interpretations of responses. For example, some narrative answers duplicated checkbox items where other narrative answers supplanted them.

The number of data points in the questionnaire was limited to allow for evaluation in the timeframe allowed for this research. As a result, some questions could not be exploited fully. NIMS ICS training responses did not include the exact NIMS ICS classes taken. Specifics on in-house training, tests or proficiencies were not expanded upon. Another area not examined was whether or not one particular solution had the most impact on departments who reported gaps in incident command capability and experience.

Because the questionnaires were self-administered, there was more room for mistakes and misinterpretations which may have been prevented by personal interviews. Time constraints made personal interviews difficult while also maximizing exposure to as many departments in Northeast Ohio as possible. Specific instructions in the introductory email were designed to prevent multiple responses per department. However, there was no method used to prevent this from occurring completely. Departments who have not experienced gaps in command capability and experience may have had methods or programs already in place which effectively prevented such gaps. This line of inquiry was not pursued specifically. However, data were evaluated to discover trends or commonalities in training and experience requirements among departments who reported no gaps in command capability and experience.

## Results

The completion rate for the Fire Department Incident Command Capability and Experience Questionaire was 28% with no incomplete questionnaires.

A majority (59%) of departments reported having experienced gaps in command capability and experience. However, none of these departments reported having extremely effective solutions for addressing these gaps. Among the group reporting very effective results, a majority included Blue Card as part of their solution. Other solutions producing very effective results were Fire Officer courses, in-house training, Fire Safety Inspector course, Fire Instructor course, incident command simulations and on-scene mentoring during live fire operations. Fire departments who reported somewhat effective results used in-house training, fire simulations, and scenarios as well as what was described as "additional training." The one department which reported not so effective results described their solution as "Requiring all newly promoted officers to complete specific courses in a number of areas. No requirements to take true incident command classes other than NIMS." The only department who reported solutions as not at all effective listed their solution as "None."

Most departments (64%) required having a minimum number of years experience for fire officers before they are permitted to act as an incident commander, where 27% reported no minimum. Of the departments requiring minimum years of experience, 32% required 1-2 years, 18% required 3-4 years, 9% required five years or more, one department required 12 years and one other reported having a minimum years experience but a number was not listed. One other department reported requirements vary based on staffing. A majority (57%) of the departments who had a specified number of years required before fire officers were permitted to act as an incident commander reported they had not experienced gaps in command capability and experience.

Half of the departments reported having a minimum numbers of years experience for firefighters before they are permitted to act as an incident commander, where 14% had no

minimum experience required. Another 14% report firefighters are not typically put in incident command positions or are only in charge of small incidents. Of the departments reporting required minimum years of experience, 27% required 1-2 years, 14% required 3-4 years, and 9% required five years or more. Two departments report firefighters are not permitted to act as incident commanders. Two other departments required firefighters to be eligible for or take a promotional exam. One department reported requirements to vary based on staffing. A majority (55%) of the departments who had a specified number of years required before firefighters were permitted to act as an incident commander reported they had experienced gaps in incident command capability and experience.

A minority (41%) of fire departments reported requiring a specified number of years for both fire officers and firefighters before they were permitted to act as an incident commander. However, 56% of the same departments had not experienced gaps in command capability and experience.

A majority (95%) reported having minimum training requirements for fire officers before they are permitted to act as an incident commander. Among the departments having requirements, 82% required NIMS ICS, 59% required Fire Officer I, 50% required in-house training, tests or proficiencies, 45% required Fire Officer II, 32% required Blue Card. Less than 14% required Incident Safety Officer, Fire Officer III, NFA Command and Control Courses, or Fire Inspector and Plan Examiner. No departments reported requiring Health and Safety Officer or Fire Officer IV. One department reported they had no minimum training requirements. It is worth noting that 59% of the departments required the completion of three or more of the listed training categories before being permitted to operate as an incident commander.

Most departments (77%) reported having minimum training requirements for firefighters before they are permitted to act as an incident commander. Among the departments having requirements, 64% required NIMS ICS, 36% required in-house training,14% required Fire Officer I, tests or proficiencies, 9% required Fire Officer II, 23% required Blue Card. Only one department required Incident Safety Officer. No departments reported requiring Health and Safety Officer, Fire Officer III or IV, NFA Command and Control Courses, or Fire Inspector and Plan Examiner. Three departments reported they had no minimum training requirements. Two departments report firefighters are not permitted to act as incident commanders. Only 18% of the departments required the completion of three or more of the listed training categories before being permitted to operate as an incident commander.

Most (59%) of departments reported having an incident commander mentoring program where 41% did not. However, 54% of the departments who had an incident commander mentoring program also experienced gaps in command capability and experience.

Blue Card certification was common in departments reporting very effective results. Fire Officer courses, in-house training, Fire Safety Inspector course, Fire Instructor course, incident command simulations and on-scene mentoring during live fire operations were all common solutions in departments reporting very effective results. Somewhat effective results were reported using in-house training, fire simulations, and scenarios as well as what was described as "additional training." A majority of the departments who had a specified number of years required before fire officers were permitted to act as an incident commander reported they had not experienced gaps in command capability and experience. The same was true for departments who had a specified number of years required before firefighters were permitted to act as an incident commander reported they had experienced gaps in command capability and experience.

However, a minority of fire departments reported requiring a specified number of years of experience for both fire officers and firefighters before they were permitted to act as an incident commander. Among this minority most had not experienced gaps in command capability and experience.

Minimum training requirements were common for fire officers before they are permitted to act as an incident commander. Most departments required NIMS ICS or Fire Officer I. Half of the reporting departments required in-house training, tests or proficiencies. Less than half required Fire Officer II, Blue Card, Incident Safety Officer, Fire Officer III, NFA Command and Control Courses, or Fire Inspector and Plan Examiner. Most departments required three or more of the training items before being permitted to operate as an incident commander. Most fire departments required firefighters to meet minimum training requirements before they are permitted to act as an incident commander. A majority required NIMS ICS. Less common requirements included in-house training, Fire Officer I, tests or proficiencies, Fire Officer II and Blue Card and Incident Safety Officer. Less than 20% of the departments required the completion of three or more training items before being permitted to operate as an incident commander. Most (59%) departments reported having an incident commander mentoring program. However, among that majority, 54% also reported having experienced gaps in command capability and experience. Among the departments who had reported no gaps in gaps in command capability and experience 66% of them had an existing incident commander training or mentoring program.

Among the departments who had reported no gaps in command capability and experience a majority (77%) had minimum experience requirements for fire officers which fell into either the 1-2 year (44%) or 3-4 year (33%) range. Similarly, among these same departments, a

majority (55%) had minimum experience requirements for firefighters which fell into either a 1-2 year (33%) or 3-4 year (22%) range. On the issue of training requirements for fire officers in departments who did not report gaps in command capability and experience 88% required NIMS ICS, 88% required Fire Officer I, 66% required Fire Officer II and 44% required Blue Card 55% required in house training, tests or proficiencies, 11% required NFA Command and Control Courses 11% required Incident Safety Officer and 11% required Fire Officer III. Training requirements for firefighters in departments who did not report gaps in command capability and experience were less stringent than those for fire officers. However, for fighters in these departments 55% required NIMS ICS, 22% required Fire Officer I, 11% required Fire Officer II and 33% required Blue Card and 22% required in house training, tests or proficiencies,

## Discussion

The history of incident command is not just interesting; it helps to understand modern day incident command systems. Seidel (2014) claimed "to be successful in the command and control of an incident; there has to be a true understanding of what the incident command system (ICS) is all about" (p. 85). In general, the incident command system evolved from the military and was modified to be more flexible and meet the needs of incident management involving multiple organizations during rapidly changing conditions (Boersma et al., 2014). The authors argued the goals of emergency operations are universal in all countries: "to (1) save lives; (2) protect property; and (3) maintain and restore the continuity of public services to the community" (Boersma et al., 2014, p. 1).

ICS, as it is known in the U.S. today, came largely a result of the California wildfires in 1970 which encroached into the urban interface (Gainey, 2015). After the devastation of these fires, a coalition of organizations came together to develop a system that could accommodate

incidents in different geographies which involved multiple agencies (Gainey, 2015). FIRESCOPE recognized the need for a system with a common structure and terminology (Gainey, 2015). The product which came from this group became the scalable incident command system which was later incorporated into NIMS (Brown, 2004). FIRESCOPE ICS was developed to accommodate larger more complex, multijurisdictional incidents and was subsequently adopted as a mainstay for NIMS in and incorporated as a model for ICS by the NFA (Ward, 2015). Alan Brunacini was on a similar track when he developed Fire Ground Command (FGC) and published the *Fire Command* textbook, concentrating on the incident management of smaller everyday emergencies (Ward, 2015). Both systems were eventually integrated with the inception of the National Fire Service Incident Management System Consortium (NIMSC, 2014).

The results of the Fire Department Incident Command Capability and Experience Questionaire showed other fire departments do experience gaps in command capability and experience. Most (59%) of departments, reported having experienced gaps in command capability and experience. This indicated Copley Fire Department was not alone in experiencing gaps and was an opportunity to learn what factors played a role in departments which did, and did not experience these gaps.

The reported solutions used to address these gaps included Blue Card certification, Fire Officer courses, in-house training, Fire Safety Inspector course, Fire Instructor course, incident command simulations and on-scene mentoring during live fire operations, in-house training, fire simulations, and scenarios as well as what was described as “additional training.” One department reported they required all newly promoted officers to complete specific courses in a number of areas but did not require any true incident command classes other than NIMS.

Interpreting the narrative answers was somewhat challenging. However, using on-scene mentoring during live fire operations, in-house training, fire simulations, and scenarios are generally consistent with best practices according to the literature.

The author of this research endeavored to establish the importance of incident command and by extension that of the incident commander. On the surface, it may appear obvious and unnecessary to justify the importance of incident command. However, it takes time and the allocation of resources to create and maintain an effective incident command system at all levels. As such, stakeholders inside and outside the fire service must understand the benefits of funding efforts to have a robust incident command system with personnel proficient in that system. A search of NFPA codes and standards showed: "Incident Command" appeared in 55 codes, or standards and "Incident Management System" appeared in 56 codes, or standards (NFPA, 2018).

Seidel (2014) explained the most important priority for an incident commander is life safety. Seidel also emphasized risk assessment as critical for incident commanders allowing them to make appropriate risk-reward decisions. Kastros (2011) discussed the same issue when he claimed incident commanders sometimes fail to recognize the full scope of an incident before making decisions and asserted risk assessment is one of the most important things an incident commander can do to prevent LODDs. Kastros (2011) added that "inadequate risk assessment is the number one causal factor of LODDs" (para. 3). Later in 2016, Kastros discussed the top five causal factors in fireground LODDs (also known as the NIOSH 5) according to the National Institute of Safety and Health (NIOSH). He highlighted these factors as improper or inadequate; risk assessment, incident command, accountability, communications, and SOGs or failure to follow SOGs. Copley Fire Department has no SOGs or SOPs in place (K. Moore, personal communication, October 18, 2018). In light of Kastros' research, Copley Fire Department would

do well to develop and implement Fire Department SOGs which promote the importance and use of ICS.

Moore-Merrell et al., (2006) largely concurred with Kastros (2011) when he identified deficiencies which contribute to firefighter line of duty deaths as being "incident command, training, communications, standard operating procedures, and pre-incident planning" (p. 2). Kunadharaju et al., (2011) added to this body of knowledge when he claimed "under-resourcing, inadequate preparation for/anticipation of adverse events during operations, incomplete adoption of incident command procedures, and sub-optimal personnel readiness" as the most significant factors in firefighter line of duty deaths (p. 1171). Research done in the U.K. also showed human error as the most commonly cited cause of firefighter injuries (Cohen-Hatton et al., 2015).

Mastering such a critical skill as incident command is not easy. This is another salient point which must be understood by internal and external stakeholders for the appropriate resources to be allocated for incident command training. Brunacini (2010) claimed one of the many challenges for an incident commander is matching limited resources to a larger number of tactical needs. Brunacini added that to reconcile the disparity of needs and resources; the IC must be willing to "write off burning property and move on to protecting uninvolved property that is presently savable" (p. 39). Prziborowski (2015) described the challenge of incident command by saying "the toughest job on the fireground has to be that of the first-arriving company officer who can set the incident up for success or failure, depending on his action or nonaction" (p. 55). Prziborowski (2015) followed this assertion by addressing the second toughest job in that of the first chief officer on scene who must put together a quick understanding of what happened thus far and correct deficiencies that may be left by the initial

incident commander. Brunacini (2003) explained incident command from the perspective of customer service when he said "our customers call us when they are having a really bad day" (p. 527), "well-managed incidents produce better outcomes than poorly managed ones" (p. 528).

The answer to the question of the effectiveness of these solutions varied. However, the solutions and their effectiveness were also largely supported by the literature. Very effective solutions included Fire Officer courses, in-house training, Fire Safety Inspector course, Fire Instructor course, incident command simulations and on-scene mentoring during live fire operations. Blue Card was the most common component in the very effective group. Existing Copley Fire Department standards are mostly in line with the requirements as mentioned above except for Blue Card. The Blue Card training program was geared towards everyday events and used real-world simulations for training incident commanders, including role-playing, student-peer interaction, and student-instructor interaction (Blue Card, 2018). The design of the Blue Card program is consistent with recommendations made by Seidel (2014) when he suggested training in all-hazard incident management using classroom and practical experience was a necessary precursor to developing qualified and effective incident commanders. It is worth noting here that incident command simulations, and on-scene mentoring during live fire operations were part of the very effective solutions reported on the questionnaire. This was in-line with the literature for best practices and should be a component of incident command training at Copley Fire Department. Fire Officer courses, in-house training, Fire Safety Inspector course, and Fire Instructor course were also included in the very effective group, and these courses were already integrated for all full-time personnel at Copley Fire Department. However, it is necessary to mention again the absence of a definition as to what in-house training meant to each department and was a limitation of this research. It is worth considering that Fire

Officer courses, in-house training, Fire Safety Inspector course, and Fire Instructor courses provided a foundation for cultivating well-rounded incident commanders who benefited even more from additional training such as Blue Card. Blue Card integrated didactic learning with interactive, real-world simulations which were consistent with Seibel's claim that "equally critical components of adult learning are the social learning environment and interactions, and a basic understanding of the simple concept mechanics" (2016, p. 15).

Seibel (2016) touted the benefits of the classroom experience when he described online delivery methods as comparatively less effective if they do not allow for engaging other peer learners or instructors. Ausburn (2004) concurred with Seibel in that training where a majority of online learning is done in the absence of two-way communications with fellow students and instructors should be minimized. In evaluating the best solutions for Copley Fire Department, it was necessary to evaluate the best methods of training in addition to content. Copley Fire Department has largely depended on web-based NIMS ICS training which offered little interaction with other students or instructors. It would be worthwhile to incorporate in-house or outside instructors for NIMS ICS training to increase the quality of this training and knowledge retention. If these courses were taught by Copley Fire Department personnel, it would also promote a positive incident command culture and attitude which Jensen and Waugh (2014) identified as factors which contribute to increased effectiveness of incident command.

The NFA Command and Control series was not included as part of any department's solutions to address gaps in command capability and experience, and only one department required it. This was somewhat surprising as the course design shared many similarities to Blue Card and was also supported by the literature as to the best practices for elements of an effective incident command training course. Both the NFA Command and Control series and Blue Card

fit the best practices and recommendations made by Seibel, (2016) and others. The design similarities between Blue Card and the NFA Command and Control series would indicate they are comparable or even complementary. It would be prudent to keep the NFA Command and Control series as a potential part of the solution for gaps in command capability and experience for Copley Fire Department even though it infrequently appeared in the questionnaire results.

A majority of departments responding to the questionnaire required NIMS ICS training courses for both fire officers and firefighters before they were permitted to act as an incident commander. NIMS ICS training was so common among the respondents that it was difficult to conclude the relative value of these courses. The *Copley Township Fire Department Policy Manual* requires NIMS compliance as it applies to "all fire department activities including emergency incidents, non-emergency incidents, special events, drills, exercises, and any other hazardous or potentially hazardous situation" (Copley Township, 2010, Section FD150). Jensen and Waugh (2014) found that ICS is used more often and most effectively by career personnel in departments where the intent of ICS is a well understood by personnel trained in ICS and used it in full-scale exercises, as well as real-world situations. NIMS ICS training would necessarily be an integral a part of any program which met the criteria set forth by Jensen and Waugh (2014). Additionally, they claimed that having a local emergency management culture and deploying ICS on routine calls added to positively to ICS use and effectiveness (Jensen & Waugh, 2014). The questionnaire did not specifically address ICS culture or pre-incident planning and post-incident analysis with partner agencies. However Jensen and Waugh (2014) suggested those elements increased the likelihood ICS would be utilized effectively. This would be instructive to Copley Fire Department to increase the level of ICS interaction and cooperation with mutual aid agencies at the local and regional level.

The questionnaire results did not reveal exactly which NIMS ICS courses were required or whether the training was classroom-based or internet-based. NIMS ICS training is commonly available on internet-based formats. Since all Copley Fire Department job descriptions specifically require personnel to meet the current NIMS standards for their respective positions, this research does not point to a need for any significant changes in NIMS ICS training for Copley Fire Department except to incorporate more interactive learning methods for NIMS ICS training.

Somewhat effective results were reported by departments who used in-house training, fire simulations, and scenarios "additional training." The department which reported not so effective results described their solution as "Requiring all newly promoted officers to complete specific courses in a number of areas. No requirements to take true incident command classes other than NIMS." The vague descriptions in these areas made it difficult to draw subsequent conclusions and implications for Copley Fire Department.

Most departments (64%) required having a minimum number of years of experience for fire officers before they are permitted to act as an incident commander. A majority of that group required 1-2 years of experience. It is also worth noting most of the departments with this requirement had not experienced gaps in command capability and experience. Half of the departments reported having minimum numbers of years experience for firefighters before they are permitted to act as an incident commander. Again most required minimal experience. Contrary to the results related to the fire officer experience requirements, a majority of the departments who had a specified number of years required before firefighters were permitted to act as an incident commander reported they had experienced gaps in command capability and experience. Among the group of fire departments who required a specified number of years

experience for both fire officers and firefighters before they were permitted to act as an incident commander most had not experienced gaps in command capability and experience.

On balance it is difficult to draw conclusions on the relationship between minimum required experience and gaps in command capability and experience. The results indicate minimum requirements for fire officers have a more positive impact than those for firefighters. The literature on experience related to incident command effectiveness was challenging to find. Intuitively one knows experience alone would not automatically lead to effective incident command skills. Experience doing things the right way is most beneficial as it reinforces best practices through the RPD model. Gasaway (2014) elaborated on the RPD model when he credited Dr. Gary Klein for discovering that effective decisions made by incident commanders are based on knowing what is going on, tacit knowledge of the subject at hand, ability to produce a hypothetical model of future events and possess the confidence to make decisions based on incomplete information.

It is difficult to draw a distinct line separating the training and experience when considering Gasaway's assertion that the brain does not differentiate between real-world emergencies and training simulations (2014). This presents an opportunity for Copley Fire Department. Copley Fire Department Lieutenant Jeff Varga expressed his concern that the department has too few structure fire calls to feel confident acting as the incident commander on such incidents (J. Varga, personal communication, October 18, 2018). According to Gasaway (2014), experience can be augmented and accelerated by training techniques which include images of fire incidents, realistic training simulations and AARs. Gasaway (2012) described perception, comprehension, and projection as the components situational awareness. He

integrated situational awareness with the RPD model whereby the incident commander perceives available information, comprehends the information and projects future events.

Before Gasaway's work, Lipshitz et al., (2001) referred to the RPD process as the prototypical Naturalistic-Decision-Making (NDM) model. They cited research where the RPD process has been reproduced in the military, aviation, and private industries. After Gasaway, Rosqvist et al., (2017) found similar results with RPD decision-making in "ICU nurses, firefighters, commanders, chess players, and stock market traders" (p. 207). Rosqvist et al., (2017) described situational awareness as perceiving essential factors at a particular point in time, comprehending the meaning of those factors and projecting likely future events. Nonetheless, they agreed with Gasaway (2012) in that situational awareness is consistent with RPD.

McLennan et al., (2005) cautioned the RPD model does not fully explain decision making in "unusual and complex incidents" (p. 10). They claimed incident command could not be mastered merely through classroom instruction due to the lack of post-incident critiques. McLennan et al., (2005) found a benefit to using helmet-mounted video cameras worn by the incident commanders during training exercises. Their conclusions indicated this particular method allowed for a personal perspective for later review which decreased the self-consciousness that can block openness to critique. McLennan et al., (2005) claimed the added benefit of an individual video perspective increased the ability to recall details and the thought processes involved in decision making during training exercises. Both McLennan et al., (2005) and Gasaway (2012) indicated specific training methods could proxy for experience. Their conclusions are consistent with the results of the questionnaire. Departments who used realistic training simulations like Blue Card were less likely to report gaps in command capability and

experience. Similarly, Blue Card was a prominent solution for departments who reported very effective solutions to gaps in command capability and experience. For Copley Fire Department this indicates a need to incorporate regular real-world ICS simulations in an incident command training program.

The use of post-incident reviews or AARs was not prominent among departments who responded to the questionnaire. However the literature in the subject was compelling. Joung et al., (2006) identified error exposure training methods to be superior to that of errorless training. They explained that "Errors are memorable, engage active processing, and help sharpen mental models. The unexpected nature of errors helps reduce excessive dependence on routine operations" (p. 288). AARs, NIOSH LODD reports, and the Near Miss program are all consistent with the benefits of using error exposure training to increase situational awareness, take advantage of the RPD model, and improve adaptive performance.

Consistent with the error exposure training recommendations from Joung et al., (2006) Copley Fire Department should take advantage of the Fire Fighter Fatality Investigation and Prevention Program (FFFIPP) and the Near Miss program. Both programs are designed to evaluate and learn from post-incident analysis. As the information from these programs are free and accessible online, they represent a valuable and flexible resource.

Most departments (77%) reported having minimum training requirements for firefighters before they are permitted to act as an incident commander. The most common requirement was NIMS ICS. Less common requirements included in-house training, Fire Officer I, tests or proficiencies, Fire Officer II, Blue Card or Incident Safety Officer.

Most (59%) departments reported having an incident commander training or mentoring program. Among that majority, 54% also reported having experienced gaps in command

capability and experience. In the departments who had reported no gaps in command capability and experience, 66% had an existing incident commander training or mentoring program. This would indicate the mere fact of having an incident commander mentoring or training program does not in and of itself prevent gaps in command capability and experience. However, incident commander training or mentoring programs were noted to be a common factor in departments which reported no gaps. As noted previously, Copley Fire Department had an Officer In Charge (OIC) mentoring program. However, many of the experienced mentors had since retired and replaced with less newly promoted officers. As Shouldis (2012) cautioned that "promotion does not automatically translate into an informed incident commander" (p. 83). Experience and training are two sides of the same coin. The results of the questionnaire combined with Shoudis' comments reinforce not just the need for training but the right kind of training. This indicates Copley Fire Department should institute and maintain incident commander training or mentoring program.

Other literature on addressing gaps in command capability and experience was very limited outside of Executive Fire Officer (EFO) Applied Research Papers (ARPs). Brant (2015) recommended pursuing joint partnerships with larger, busier departments. He also suggested Blue Card Certification or similar program, formal training policies for officers and acting officers, along with live fire training in acquired structure and an increase in the frequency and quality of incident command training. Brant's recommendations are consistent with the literature and the questionnaire results. However, implementing joint partnerships with larger, busier departments for incident command experience could be logistically difficult and cost prohibitive for Copley Fire Department. McDonald (2016) made recommendations to address gaps in incident command capability and experience which included department-wide

evaluations of current command proficiency, regular hands-on ICS training, use of command checklists, attendance at the NFA Command and Control courses, and the use of computer-based simulations with classroom and practical IC training.

Copley Fire Department full-time firefighters are not required to meet the requirements of NFPA 1021-Standard for Fire Officer Professional Qualifications. However, they are encouraged to attend Fire Officer I and II, and as a result, many have completed both courses. One Copley Fire Lieutenant has completed Fire Officer I, II, III, and IV. One Lieutenant, one full-time firefighter, and the current Copley Fire Department Operations Captain have completed the NFA Command and Control of Incident Operations and Command and Control Decision-Making at Multiple Alarm Incidents (K. Moore, personal communication, October 18, 2018).

Investigating what solutions Copley Fire Department should use to address gaps in command capability and experience also required an evaluation of commonalities among departments who did not experience gaps. Among the departments who had reported no gaps in command capability and experience a majority (77%) had minimum experience requirements for fire officers which fell into either the 1-2 year (44%) or 3-4 year (33%) range. Similarly, among these same departments, a majority (55%) had minimum experience requirements for firefighters which fell into either a 1-2 year (33%) or 3-4 year (22%) range. Requirements based on experience at Copley Fire Department are found in the Copley Fire Department Collective Bargaining Agreement which requires a firefighter to have a minimum of five years full-time experience before they can be called back for overtime to fill an OIC position (Copley Township and Local 3130, 2018). Other related requirements are situational as in the case of promotions. A recent Lieutenant promotion required a minimum of five years service with the Copley Fire Department which could include prior part-time service (K. Moore, personal communication,

October 18, 2018). The five-year requirement at Copley Fire is more than the minimum experience required by most departments who reported no gaps in incident command capability and experience. However, policies should be developed to ensure firefighters and fire officers have no less than 3-4 years experience before acting as an incident commander. Such a requirement would align Copley Fire Department with the same or greater experience requirements as departments who did not report gaps.

Training requirements for fire officers in departments who did not report gaps in command capability and experience 88% required NIMS ICS, 88% required Fire Officer I, 66% required Fire Officer II and 44% required Blue Card 55% required in house training, tests or proficiencies, 11% required NFA Command and Control Courses 11% required Incident Safety Officer and 11% required Fire Officer III. Training requirements for firefighters in departments who did not report gaps in command capability and experience were less stringent than those for fire officers. However, for fighters in these departments 55% required NIMS ICS, 22% required Fire Officer I, 11% required Fire Officer II and 33% required Blue Card and 22% required in house training, tests or proficiencies.

There were commonalities in training requirements among the departments who had not reported gaps in command capability and experience. Most of these departments required NIMS ICS, Fire Officer I, Fire Officer II and in house training, tests or proficiencies. Less common but still worth noting, 44% required Blue Card for fire officers before they were permitted to act as incident commanders. For fighters in these departments most required NIMS ICS. Blue Card was a less common requirement for firefighters. However, it was required by 33% of reporting departments followed by 22% requiring in house training, tests or proficiencies.

Copley Fire Department is well positioned to implement changes in response to this research. Best practices identified in the literature and some of the existing elements common to departments who had not experienced gaps in command capability and experience were already in place at Copley Fire Department. Differences centered around consistent minimum requirements in experience for fire officers and firefighters. Other elements identified as lacking at Copley Fire Department were NIMS ICS training with adequate student interaction, Blue Card and robust policies and SOGs for incident command which incorporate in house training, tests and proficiencies. An incident command training and mentoring program which integrates Fire Officer courses, AARs, Near Miss reports and NIOSH LODD reports with an emphasis on the NIOSH 5 will also be essential for Copley Fire Department. The NFA Command and Control series of classes would offer large scale incident command training to compliment Blue Card's small scale everyday incident command training although not part of this research, an annual evaluation program on incident command competency should be incorporated to quantify the incident command capability of Copley Fire Department and allow for adjustments to the incident command training program.

## Recommendations

These recommendations are based on the totality of this research paper including current practices of Copley Fire Department, the literature review and results of the Fire Department Incident Command Capability and Experience Questionaire.

Copley Fire Department should continue the requirements where all personnel are required to be State of Ohio certified as a Firefighter II, and Paramedic with the caveat being all full-time personnel are required to have State of Ohio Fire Safety Inspector certification. The requirement for all Copley Fire Department officers, except the Chief Fire Inspector, to be State

of Ohio certified as a Fire or Emergency Medical Services (EMS) instructor should be optional. All Copley Fire Department full-time personnel should meet the level of minimum competence according to NFPA 1021-Standard for Fire Officer Professional Qualifications which would include a minimum Fire Officer I and Fire Officer II.

All Copley Fire Department personnel should also continue meeting the requirement for the existing NIMS Incident Command System which includes (ICS) 100 and 700 courses. All fire officers should also complete NIMS ICS 200, 300, 700 and 800b. All fire officers should complete either Blue Card or the NFA Command and Control of Incident Operations and Command and Control Decision-Making at Multiple Alarm Incidents. Chief-level officers should also complete NIMS ICS 400 and 702. All full-time personnel should be encouraged to attend the ISO course; however, this can be a requirement instituted after more specific incident command training has been accomplished.

Policies and SOGs for and related to incident command and incident management must be made a top priority. This would necessarily require those same policies and SOGs to incorporate consensus best practices and recognized standards. The frequency of incident command training, which would include new and updated policies and SOGs, should increase significantly. Incident command training should include AARs and Near Miss reports. The Copley Fire Department Training Program should also take advantage of the FFFIPP including NIOSH LODD reports.

By extension, Copley Fire Department incident command training should highlight the recognized top five (NIOSH 5) causal factors in firefighter deaths and injuries on the fire ground including improper or inadequate, risk assessment, incident command, accountability, communications, and SOGs or failure to follow SOGs.

Incident command training should be coordinated with mutual aid agencies at the local and regional level. Incident command should be used on routine calls as well as more significant and complex events. Incident command training should include in-house training, simulations and on-scene mentoring during live fire operations. Pre-incident planning and post-incident analysis should be done whenever possible. ICS should be used in full-scale exercises, as well as in real-world situations while incorporating incident command mentorship. Incident commanders should use helmet-mounted video cameras during training exercises, and live incidents for use in critiques and AARs.

Annual evaluations on incident command competency should be done and repeated annually to quantify the incident command capability of Copley Fire Department. The results of this evaluation should be used to make necessary changes to the incident command training program.

References

Ausburn, L. J. (2004). Course design elements most valued by adult learners in blended online education environments: An American perspective. *Educational Media International*, *41*(4), 327-337.

Benson, M. (2018). *Copley Fire Department activity report to board of trustees - 2017* [Copley Fire Department Annual Report]. Copley, OH: Copley Township.

Blue Card. (2018). *Blue Card program overview.* Retrieved from http://www.bshifter.com/bcmd_ProgramOverview.aspx

Boersma, K., Comfort, L., Groenendaal, J., & Wolbers, J. (2014, March). Editorial: Incident command systems: A dynamic tension among goals, rules and practice. *Journal of Contingencies and Crisis Management*, *22*(1), 1-4.

Brant, S. W. (2015). *Bridging the incident command experience gap of Fairlawn's officers* [Applied Research Project]. Retrieved from National Emergency Training Center library website:

Brown, M. D. (2004). *NIMS: The lasting legacy of 9/11.* Retrieved from https://www.fireengineering.com/articles/2004/06/nims-the-lasting-legacy-of-9-11.html

Brunacini, A. (2010, December). Safety in numbers. *Fire Engineering*, *163*(12), 38-39.

Brunacini, N. (2003). Incident command. In R. C. Barr & J. M. Eversole (Eds.), *The fire chief's handbook* (6th ed., pp. 527-542). Tulsa, OK: PennWell Corporation.

Centers for Disease Control and Prevention. (2018, April 3). *Fire fighter fatality investigation and prevention.* Retrieved from https://www.cdc.gov/niosh/fire

Cohen-Hatton, S. R., Butler, P. C., & Honey, R. C. (2015, August). An investigation of operational decision making in situ: Incident command in the U.K. fire and rescue service. *Human Factors*, *57*(5), 793-804.

Copley Township and Local 3130. (2018). *Collective bargaining agreement January 1, 2018 to December 31, 2020.* Copley, OH: Copley Township.

Copley Township. (2010). *Copley Township fire department policy manual* [Policy Manual]. Copley, OH: Copley Township.

*Copley Township hydrant locations* [GIS Hydrant Locations]. (2017). Akron, OH: Summit County Department of Community & Economic Development.

Federal Emergency Management Agency (FEMA). (2008, May). *Incident command system training glossary.* Retrieved from https://training.fema.gov/emiweb/is/icsresource/assets/icsglossary.pdf

Federal Emergency Management Agency (FEMA). (2018, April 26). *Distance learning*. Retrieved from https://training.fema.gov/is/

Firefighter Near Miss (FFNM). (2019). *Firefighter near miss about.* Retrieved from http://www.firefighternearmiss.com/About

Gainey, R. R. (2015, October 1). *Fire service incident command system: Understanding the basics of the incident command system.* Retrieved from https://www.firerescuemagazine.com/articles/print/volume-10/issue-10/command-and-leadership/fire-service-incident-command-system.html

Gasaway, R. B. (2012). *Fireground command decision making*. [Kindle]. Retrieved from https://www.amazon.com/gp/product/B006U33LJ8/ref=oh_aui_d_detailpage_o02_?ie=UTF8&psc=1

Gasaway, R. B. (2014, May 27). *Understanding fireground command: Making decisions under stress.* Retrieved from https://www.fireengineering.com/articles/print/feu/understanding-fireground-command.html

Jensen, J., & Thompson, S. (2016, January). The incident command system: A literature review. *Disasters*, *40*(1), 158-182.

Jensen, J., & Waugh, W. L. (2014, March). The United States' experience with the incident command system: What we think we know and what we need to know more about. *Journal of Contingencies and Crisis Management*, *22*(1), 5-17.

Johnson, B. A. (2016). *Sun Tzu and the art of fireground leadership*. [Kindle]. Retrieved from https://www.amazon.com/Sun-Tzu-Art-Fireground-Leadership/dp/154078441X/ref=as_li_ss_tl?ie=UTF8&qid=1484337441&sr=8-1&keywords=sun+tzu+fireground&linkCode=sl1&tag=experienceshift-20&linkId=4d22bd1c0e24a1e6c27459e7643bcdb0

Joung, W., Hesketh, B., & Neal, A. (2006). Using "war stories" to train for adaptive performance: Is it better to learn from error or success? *Applied Psychology*, *55*(2), 282-302.

Kastros, A. (2011). Mastering fireground command: 10 Commandments of command. *Fire Engineering, 164*(8), 53-67.

Kastros, A. (2016, April). Aggressive command and tactics. *Fire Engineering, 169*(4), 61-74.

Kunadharaju, K., Smith, T. D., & DeJoy, D. M. (2011, May). Line-of-duty-deaths among U.S. firefighters: An analysis of fatality investigations. *Accident Analysis & Prevention*, *43*(3), 1171-1180.

Lipshitz, R., Klein, G., Orasanu, J., & Salas, E. (2001). Taking stock of natural decision making. *Journal of Behavioral Decision Making*, *14*, 331-352.

McDonald, C. (2016). *Identifying methods for incident command training* [Applied Research Paper]. Retrieved from National Training Center library website: https://nfa.usfa.fema.gov/pdf/efop/efo237610.pdf

McLennan, J., Pavlou, O., Klein, P., & Omodei, M. (2005, August). Using video during training to enhance learning of emergency incident command and control skills. *The Australian Journal of Emergency Management*, *20*(3), 10-14.

Moore-Merrell, L., McDonald, S., Zhou, A., Fisher, E., & Moore, J. (2006). *Contributing factors to firefighter line-of-duty death in the United States*. Retrieved from International Association of Fire Fighters (IAFF) website: http://www.iaff.org/tech/pdf/contributing%20factors%20to%20ff%20line-of-duty%20death_iaffand%20usfa.pdf

National Fire Protection Association (NFPA). (2018). *Codes and standards.* Retrieved from https://www.nfpa.org/Codes-and-Standards

National Incident Management System Consortium (NIMSC). (2014). *NIMSC Background.* Retrieved from http://nimsc.org/background-info/

Neamy, R. (2011, August 1). *From firescope to NIMS*. Retrieved from https://www.firerescuemagazine.com/articles/print/volume-6/issue-8/command-and-leadership/from-firescope-to-nims.html

Ohio Development Services Agency Office of Research. (2018, May). *2017 Summit county population estimates for cities, villages and townships.* Retrieved from https://development.ohio.gov/files/research/P5027.pdf

Prziborowski, S. (2015, July). The fire officer's role in reducing firefighter line-of-duty deaths. *Fire Engineering*, *168*(7), 55-60.

Rosqvist, T., Havlik, D., & Meriste, M. (2017). A reference decision making model for first responders' decision-making. *International Journal of Emergency Management*, *13*(3), 193-209.

Seibel, E. J. (2016). *Missing the mark: Is ICS training achieving its goal* (Masters thesis). Retrieved from https://www.hsdl.org/?view&did=798871

Seidel, G. (2014, November). Walking the point in incident command. *Fire Engineering*, *167*(11), 85-86.

Shouldis, W. (2012, July). Taking command: A navigational formula. *Fire Engineering*, *165*(7), 83-85.

U.S. Census Bureau. (2005, November 1). *Population estimates for states.* Retrieved from https://www2.census.gov/programs-surveys/popest/tables/1990-2000/2000-subcounties-evaluation-estimates/sc2000f_oh.txt

U.S. Fire Administration (USFA). (2013). *America's fire and emergency services leader: Strategic plan, fiscal years 2014-2018*. Emmitsburg, MD: FEMA.

U.S. Fire Administration (USFA). (2019). *Training and professional development.* Retrieved from https://apps.usfa.fema.gov/nfacourses/catalog/search?&&forget=true&courseCode=R

Ward, M. J. (2015). *Fire officer principles and practice* (3rd ed.). Burlington, MA: Jones and Bartlett.

Williams-Bell, F. M., Kapralos, B., Hogue, A., Murphy, B. M., & Weckman, E. J. (2015). Using serious games and virtual simulation for training in the fire service: A review. *Fire Technology*, *51*(3), 553-584.

# Appendix A

4. Does your department have minimum experience requirements for **firefighters** before they are permitted to act as an incident commander?

- [ ] 1-2 yrs.
- [ ] 5 yrs. or more
- [ ] 3-4 yrs.
- [ ] Other (please specify)

5. Does your department have minimum training requirements for **firefighters** before they are permitted to act as an incident commander? Check all that apply.

- [ ] NIMS ICS
- [ ] Blue Card
- [ ] Fire Officer I
- [ ] Incident Safety Officer
- [ ] Fire Officer II
- [ ] Health and Safety Officer
- [ ] Fire Officer III
- [ ] Fire Inspector and Plan Examiner
- [ ] Fire Officer IV
- [ ] In house training, tests or proficiencies
- [ ] NFA Command and Control Courses
- [ ] Other (please specify)

6. Has your department experienced gaps in command capability and experience?

- [ ] No
- [ ] If Yes, what solutions has your department used to address the gaps?

Fire Department Incident Command Capability and Experience Questionnaire

2.

7. How effective were these solutions?

- [ ] Extremely effective
- [ ] Not so effective
- [ ] Very effective
- [ ] Not at all effective
- [ ] Somewhat effective

# Appendix B

## Questionnaire Email Request

**From:** Chris Bower
**To:**
**Subject:** questionnaire
**Date:** Thursday, October 25, 2018 13:22:00
**Attachments:** Chris Bower.vcf

My name is Chris Bower. I am a captain with Copley Township Fire Department and a student in the Executive Fire Officer Program at the National Fire Academy. As part of my coursework, I am researching incident command capability and experience in the fire service. Your participation in a brief, anonymous questionnaire will be invaluable to my research. Please complete only **one questionnaire per fire department**. If you have any questions or comments, you can contact me at cbower@copley.oh.us Thank you in advance for your input. Please follow the link below to participate.

https://www.surveymonkey.com/r/5ZD9KGK

**Chris Bower**
Captain
Copley Fire Department
1540 S. Cleveland Massillon ...
Copley, OH 44321
Work (330) 666-6464
Fax (330) 670-4721
Mobile (330) 603-4629
cbower@copley.oh.us

"Success is walking from failure to failure with no loss of enthusiasm."
*Winston Churchill*

## Appendix C

Data Collection

| | Does your department have an incident commander training or mentoring program? | |
|---|---|---|
| FD | Yes | No |
| 1 | Yes | |
| 2 | | No |
| 3 | Yes | |
| 4 | | No |
| 5 | | No |
| 6 | | No |
| 7 | Yes | |
| 8 | | No |
| 9 | Yes | |
| 10 | | No |
| 11 | | No |
| 12 | Yes | |
| 13 | Yes | |
| 14 | Yes | |
| 15 | | No |
| 16 | Yes | |
| 17 | Yes | |
| 18 | Yes | |
| 19 | Yes | |
| 20 | | No |
| 21 | Yes | |
| 22 | Yes | |

| | Does your department have minimum experience requirements for fire officers before they are permitted to act as an incident commander? | | |
|---|---|---|---|
| FD | 1-2 yrs. | 3-4 yrs. | 5 yrs. or more |
| 1 | no minimum exp requirements | | |
| 2 | Depends on Staffing | | |
| 3 | | X | |
| 4 | NIMS | | |
| 5 | | X | |
| 6 | | X | |
| 7 | X | | |
| 8 | X | | |
| 9 | | | X |
| 10 | We try to make sure officers or lead people (people who have taken a promotional exam are in charge. Additionally, we try to make sure there is always a first class FF on every crew. However, depending on situations someone with less experience may be the initial incident commander until relieved by higher ranking officer. | | |
| 11 | None, once promoted no restrictions | | |
| 12 | | | X |
| 13 | | | X |
| 14 | X | | |
| 15 | No | | |
| 16 | X | | |
| 17 | Officer and AOIC's have to have a specific number of years on the job to be in the position of an officer or AOIC. | | |
| 18 | X | | |
| 19 | All of our officers can be IC as soon as they assume the position. | | |
| 20 | | X | |
| 21 | X | | |
| 22 | X | | |

| | Does your department have minimum training requirements for fire officers before they are permitted to act as an incident commander? Check all that apply. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FD | NIMS ICS | Fire Officer I | Fire Officer II | Fire Officer III | Fire Officer IV | NFA Command and Control Courses | Blue Card | Incident Safety Officer | Health and Safety Officer | Fire Inspector and Plan Examiner | In house training, tests or proficiencies |
| 1 | X | X | | | | | | | | | X |
| 2 | X | | | | | | X | | | | X |
| 3 | X | X | X | | | X | X | X | | | X |
| 4 | X | | | | | | | | | | |
| 5 | X | X | X | | | | | X | | | |
| 5 | Other (please specify) | | All officers are expected to have these minimum classes. But not as a requirement to be an IC. As a volunteer based department, we may not know who is going to be the initial IC so we try to provide basic IC training to all personnel. | | | | | | | | |
| 6 | X | X | X | | | | | | | | X |
| 7 | X | | | | | | | | | | X |
| 7 | Other (please specify) | | Fire Service Instructor Certification - within 3 years of being an Officer Fire Officer I Certification - within 3 years of being an Officer | | | | | | | | |
| 8 | | X | | | | | | | | | |
| 9 | X | X | X | X | | | | | | | X |
| 10 | X | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 11 | Other (please specify) | | No. | | | | | | | | |
| 12 | X | X | X | | | | | X | | X | X |
| 12 | Other (please specify) | | Leadership. NOTE: THESE ARE AFTER THEY ARE PROMOTED BUT WITHIN THE FIRST YEAR IF POSSIBLE except for the in house and other courses we can provide. Cannot do it all the time due to the admin, but I am hoping (for shift changing puposes) to have the mayor interview and name the next Lt for promotion in Aprril of 19. This way he may be mentored for months before actually taking on roll. | | | | | | | | |
| 13 | | | X | | | | | | | | |
| 14 | X | X | | | | | | | | | |
| 15 | | | | | | | | | | | X |
| 16 | X | X | X | | | | X | | | | |
| 17 | X | | | | | | X | | | | X |
| 18 | X | X | X | | | | X | | | | |
| 19 | X | | | | | | X | | | | X |
| 20 | X | X | | | | | | | | | |
| 20 | Other (please specify) | | NIMS 300 & 400 | | | | | | | | |
| 21 | X | X | X | | | | | | | | X |
| 22 | X | X | X | | | | X | | | | |
| 22 | Other (please specify) | | All officers completed Blue Card and most firefighters on the department have also completed the training. Our region has completed Blue Card training for all fire ground officers. | | | | | | | | |

| | Does your department have minimum experience requirements for firefighters before they are permitted to act as an incident commander? | | | |
|---|---|---|---|---|
| FD | 1-2 yrs. | 3-4 yrs. | 5 yrs. or more | Other (please specify) |
| 1 | | | | no min years |
| 2 | | | | Depends on Staffing. |
| 3 | | X | | |
| 4 | X | | | |
| 5 | | X | | |
| 6 | X | | | |
| 7 | X | | | |
| 8 | X | | | |
| 9 | | | | Firefighters do not act as incident commanders |
| 10 | | | | We try to make sure officers or lead people (people who have taken a promotional exam are in charge. Additionally, we try to make sure there is always a first class FF on every crew. However, depending on situations someone with less experience may be the initial incident commander until relieved by higher ranking officer. |
| 11 | | | X | |
| 12 | | | | Have to have taken the Lt exam and have passed to be eligible for lead at outlining station |
| 13 | | | | will not act as incident command |
| 14 | X | | | |
| 15 | | | | No |
| 16 | | | | No requirement as this role is typically filled by officer |
| 17 | | | | rarely is a FF in an IC position |
| 18 | X | | | |
| 19 | | | | Acting officers can be IC, at least on small incidents or until other crews arrive. |
| 20 | | | | |
| 21 | | X | | |
| 22 | | | X | |

| | Does your department have minimum training requirements for firefighters before they are permitted to act as an incident commander? Check all that apply. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FD | NIMS ICS | Fire Officer I | Fire Officer II | Fire Officer III | Fire Officer IV | NFA Command and Control Courses | Blue Card | Incident Safety Officer | Health and Safety Officer | Fire Inspector and Plan Examiner | In house training, tests or proficiencies |
| 1 | X | | | | | | | | | | X |
| 2 | X | | | | | | X | | | | X |
| 3 | X | X | X | | | | X | | | | X |
| 4 | X | | | | | | | | | | |
| 5 | X | | | | | | | X | | | X |
| 6 | X | | | | | | | | | | X |
| 7 | X | | | | | | | | | | X |
| 7 | Other (please specify) | | Size-Up Training Engine Company Operations Reading Smoke Training Tactical Worksheet - Table Top Training | | | | | | | | |
| 8 | | X | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 9 | Other (please specify) | | Firefighters do not act as incident commanders | | | | | | | | |
| 10 | X | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 11 | Other (please specify) | | Just time on job | | | | | | | | |
| 12 | | | | | | | | | | | X |
| 13 | | | | | | | | | | | |
| 13 | Other (please specify) | | not allowed to act as IC | | | | | | | | |
| 14 | X | | | | | | | | | | |
| 15 | | | | | | | | | | | X |
| 16 | | | | | | | X | | | | |
| 16 | Other (please specify) | | While our firefighters do not typically fill the role of IC, they are held to Blue Card standards | | | | | | | | |
| 17 | X | | | | | | | | | | |
| 18 | X | | | | | | X | | | | |
| 19 | X | | | | | | | | | | |
| 20 | | | | | | | | | | | |
| 20 | Other (please specify) | | None. | | | | | | | | |
| 21 | X | | | | | | | | | | |
| 22 | X | X | X | | | | X | | | | |

| | Has your department experienced gaps in command capability and experience? | |
|---|---|---|
| FD | No | If Yes, what solutions has your department used to address the gaps? |
| 1 | | Increased scenario based training |
| 2 | | Lots of New Young Guys getting Hired. We have had lots of Retirements. |
| 3 | No | |
| 4 | | Started to train all officers and OICs with Blue Card |
| 5 | | Provide additional training. Rely on occasional mutual aid officer. |
| 6 | No | |
| 7 | | Orientation Book - Added sections to include the following training regarding being Incident Commander: Size-Up Training Engine Company Operations Reading Smoke Training Tactical Worksheet - Table Top Training |
| 8 | No | |
| 9 | No | |
| 10 | | review of ICS SOP holding officer development day and bring instructor in to review ICS and use fire sim software. |
| 11 | | Requiring all newly promoted officers to complete specific courses in a number of areas. No requirement to take true incident command classes other than NIMS courses |
| 12 | | Catching up, previous chief did not empower the officers with the proper training or certifications. |
| 13 | | We found a gap in training. Once promoted the officer was handed a clip board and told god luck. That has changed requiring classes such as fire officer 1 and 2. We are currently working our officers through the blue card program. |
| 14 | | Training in command and control. Fire Officer I, II, III NIMS ICS classes Being on scene with them and allowing them to take command and run the scene. |
| 15 | | |
| 16 | No | |
| 17 | | Many of the officers and AOIC's have a great deal of experience at handling medical emergencies; however, their experience handling fire scenes is limited. All of our officers are Blue Card certified. We conduct yearly training on fireground command and control. It is department policy that when a chief grade officer arrives at the scene, he should: 1. do his own 360 2. meet with the current IC and evaluate the operation. the chief grade officer can do 3 things: a. Take over the incident and re-assign the original IC b. Leave the current IC in place and become a "senior adviser" to the IC c. Leave current IC in place and ask to be assigned to an operation function |
| 18 | No | |
| 19 | No | |
| 20 | No | |
| 21 | No | |
| 22 | | Incorporated Blue Card training and require all officers to complete FO1 - 4, fire inspector and fire instructor within in their first 2 years of promotion. |

| | How effective were these solutions? | | | | |
|---|---|---|---|---|---|
| FD | Extremely effective | Very effective | Somewhat effective | Not so effective | Not at all effective |
| 1 | | | X | | |
| 2 | | | X | | |
| 3 | | | | | |
| 4 | | X | | | |
| 5 | | | X | | |
| 6 | | | | | |
| 7 | | X | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | X | | |
| 11 | | | | X | |
| 12 | | X | | | |
| 13 | | X | | | |
| 14 | | X | | | |
| 15 | | | | | X |
| 16 | | | | | |
| 17 | | X | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | X | | | |