

**ASSESSING THE NEED FOR SPECIALIZED TRAINING FACILITIES IN
ENHANCING SKILL DEVELOPMENT AND PROFICIENCY FOR THE CITY OF
WINSTON-SALEM FIRE DEPARTMENT**

Research Presented in Partial Fulfillment

of the Requirements for the

Executive Fire Officer Program

by

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April 2024

Abstract

The City of Winston-Salem Fire Department (WSFD) currently grapples with an adaptive challenge due to the absence of a dedicated training facility within its jurisdiction. This hinders crucial activities such as live-fire burning, high-rise fire rescue training, physical fitness exercises, and educational endeavors. This qualitative research study investigates the necessity and potential impact of establishing a live-fire training facility within the city limits of Winston-Salem, North Carolina.

Through generic qualitative inquiry, the study explores the perspectives of WSFD personnel on training facility needs, organizational innovation, physical fitness sustainability, and challenges associated with establishing and maintaining a training facility. This study finds unanimous support among WSFD research participants for establishing a live-fire training facility, citing its potential to enhance professional capabilities, accessibility to training, and organizational innovation. However, participants also highlight significant challenges posed by inadequate current facilities in meeting physical fitness needs and preparing individuals for required tests, such as the Job-Related Physical Abilities Test (JPAT). The research revealed a preference for a multi-functional facility design that incorporates modern technology and equipment to maximize training effectiveness. The research also identified challenges related to securing funds and ensuring equitable access to the training facility.

The findings of this research underscore the urgent need for investment in upgraded facilities to support personnel development and meet organizational performance standards. By addressing these challenges, fire departments like the WSFD can enhance emergency response effectiveness and public safety within their communities.

Acknowledgments

This Capstone Research Project is dedicated to my wonderful and supportive wife, Shundra, my sons Miles and Micah, and my parents, Wilbert, and Mary, who have been my constant support system. Additionally, it is dedicated to my brothers and sisters of the City of Winston-Salem Fire Department. Their dedication, selflessness, and commitment to serving and leading our community deserve recognition and appreciation. My goal is to positively impact my community and leave my department in a better state than when I first joined.

My affiliation with the Winston-Salem Fire Department is provided as biographical information. No official sponsorship or endorsement of this Capstone Research Project by the Winston-Salem Fire Department was provided or should be inferred.

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Introduction

The fire service has transformed in many ways, increasing service demand and areas of expertise. Fire chiefs face the task of sustaining firefighters' health and safety and addressing the community's changing needs by employing highly trained firefighters to fulfill service demands. Environmental concerns and the limited availability of vacant training structures place restricts the type of live-fire training that can be conducted. Engaging in these activities enhances cardiovascular endurance and improves strength, flexibility, and agility—critical components of optimal physical fitness for firefighters.

Reasonable accessibility to training facilities with multiple burn rooms could solve this adaptive challenge. A training facility may allow firefighters to maintain their physical fitness by engaging in exercises that replicate real-world tasks and movements. Economic downturns and financial restraints have decreased available resources and have impacted the Winston-Salem Fire Department's (WSFD) ability to have its training facility. With improved community risk reduction programs, residential structure fires have decreased, decreasing firefighters' opportunities to participate in live-fires (City of Winston-Salem Fire Department, 2023).

Background

The WSFD is a mid-sized organization that provides emergency services to approximately 252,274 citizens who consider Winston-Salem, North Carolina home (City of Winston-Salem, 2023a). The WSFD is the fifth largest in North Carolina with 379 employees. The WSFD is managed by the fire chief and is divided into 5 divisions: operations, safety and training, fire life safety, logistics, and accreditation. The deputy fire chief provides oversight for the divisions. The department operates 20 fire stations from four battalions, comprised of 19 engines, 5 ladders, 1 heavy rescue, and 1 hazardous materials response unit. All fire stations are

staffed on a 24-hour basis, making up three working platoons (City of Winston-Salem Fire Department, 2023b). All personnel in the operations division are certified as North Carolina Level II Firefighters and North Carolina Emergency Medical Technicians. Moreover, the WSFD provides fire prevention and investigation services, a training division, community outreach, and administrative services. During the fiscal year of 2022-2023, the WSFD responded to 21,151 emergency calls. Sustaining this level of service demands that the WSFD maintain a quality training environment with an adequate and accessible facility for practical training and evaluation.

The National Fire Protection Association (NFPA) (2023) noted that the occurrence of structure fires within the United States Fire Service was down fifty percent since 1980. Unlike previous generations, contemporary firefighters encounter fewer structure fires. Firefighter training commonly includes participation in live-fire training evolutions in preparation for the real-world fire ground situations that firefighters will face (Regan, 2021). Departments are faced with the task of devising methods to replicate real-life work scenarios as a means of preventing the deterioration of firefighters' skills. This necessitates finding ways to provide firefighters with simulated "on-the-job training" opportunities. Research indicates that important elements of expert performance are tied to experience and that practice is more significant than previously believed possible (Smith, 1996). Continuous, meaningful, and practical training that includes rigorous practice must be undertaken to better prepare emergency responders (Krause, 2019). Maintaining proficient skills and developing new ones is an essential activity for current firefighters.

Historically, departments were granted permission to use old homes slated for demolition. Building small compartment fires and deploying firefighters inside to search,

ventilate, and extinguish created realistic training. This type of training was the continuous improvement drills used by the fire service so firefighters could practice techniques to remain proficient when an actual structure was reported (Krause, 2019).

State regulations aimed at safeguarding the environment and firefighters are stricter than those of earlier times. In 1996, the North Carolina Open Burn Act (1996/2019) was created to protect air quality by controlling air pollution resulting from the open burning of combustible materials and to protect the air quality in the immediate area of the open burning. The North Carolina Department of Environmental Quality prohibits fire training on days when the air quality forecast in the training area is Code Orange, Red, or Purple unless fire training is being conducted under the supervision of or the cooperation of one or more of the following agencies, North Carolina Fire or Rescue College, Technical Institutes, North Carolina Forest Service, or the North Carolina Department of Insurance (2023). In 2015, the North Carolina Fire and Rescue Commission (2020) released the guidelines and procedures manual for live-fire training evolutions aimed at enhancing firefighter safety. Subsequently, this has made it challenging for fire departments to conduct training using old structures due to administrative red tape, expensive abatement procedures, and hiring additional personnel to deliver training.

Fire departments have been constructing training facilities that provide controlled spaces for practicing firefighting, ventilation techniques, ladder maneuvers, and other essential skills. The City of Winston-Salem built a three-story training tower accompanied by a six-foot-by-six-foot burn pit in the 1950s and was primarily used by the WSFD until the structure was deemed unsafe for use in the late 1990s due to its structural condition (WSFD Historical Society, n.d.). During the fall of 2010, Forsyth Technical Community College completed the construction of its 10,000-square-foot drill tower and a six-story burn building in King, North Carolina, which is

approximately 15 miles from the WSFD public safety center (Winston-Salem Journal, 2012). In June 2019, Kernersville Fire Department (KFD), a neighboring department of the WSFD, built a live-fire training facility. KFD training facility has one 4-story rescue tower and one 4-story burn building totaling 6,400 square feet of usable training space (D. Willard, Assistant Chief of Training KFD, personal communication, November 15, 2023). KFD training facility is located at KFD Fire Station 42, 12 miles from the WSFD public safety center. A memorandum of understanding between KFD and WSFD permits the WSFD to train at this facility barring any scheduling conflicts with KFD (D. Willard, Assistant Chief of Training KFD, personal communication, November 15, 2023).

The WSFD is in a similar position to the Marietta Fire Department. According to Marietta's Fire Chief C.W. Durham (as cited in Taylor, October 2023) there is only one training facility in the county. When Marietta trains there, it is outside their department's jurisdiction and results in 20–25-minute response times. “If we could train and still be in the city, have it protected, it would save about \$40,000 in annual overtime, Durham said. So, location is key (as cited in Taylor, October 2023).” WSFD Interim Assistant Chief of Training Ed Duffield (personal communication, November 21, 2023) describes WSFD's current need for a training facility as “dire”.

We are spending an exorbitant amount of money on fuel for personnel to travel to regional facilities to train. Not to mention the wear and tear on frontline apparatuses, we are also decreasing our reliability to respond to emergencies because crews are 20-30 minutes away from their first-in territory.

Appendices A and B illustrate the distances traveled by WSFD personnel to access current live-fire training facilities.

The WSFD is a forward-thinking organization with an active training division. The WSFD 2021 annual training plan included the following:

Requires suppression personnel to successfully complete the annual Job-Related Physical Ability Test (JRPAT). All suppression personnel must complete 248 hours of training annually. All personnel in suppression must obtain a minimum of 16 hours of essential training per month for 192 hours annually. All personnel in suppression must obtain 6 hours of hazardous materials training with 4 hours being practical training. All suppression personnel must obtain 18 hours of drill ground training annually, including various topics, skill evaluations, and live-fire training. Technical rescue and hazardous materials team members must obtain an additional 12 hours of specialized training annually (Winston-Salem Fire Department Training Division, 2021).

The WSFD has an in-house fire recruit training program that often collaborates with Forsyth Technical Community College to deliver the curriculum. All live-fire, ventilation, search, ladder work, and other essential recruit training takes place at the emergency services training facility in King, North Carolina. All in-service live-fire training occurs at the King training facility and Kernersville Fire Department training facility based on the facilities' availability. Currently, firefighters use workout equipment obtained by the department, situated either at fire stations or at the Alexander Beaty Public Safety Center, to uphold their fitness levels for duty.

Significance of the Study

The significance of this capstone research project lies in its alignment with critical initiatives outlined in the Center for Public Safety Excellence 21st Century Fire and Emergency Services (CPSE) White Paper (July 2020). By addressing the challenges posed by aging or nonexistent fire and emergency services building structures, the research aims to enhance the

operational effectiveness and safety of the WSFD. Furthermore, the focus on promoting an organizational environment characterized by adaptability, openness to change, innovation, and a commitment to continuous improvement speaks to the project's broader impact on the culture and efficiency of the WSFD. Establishing organizational expectations for employee training, credentialing, and continued professional development underscores the commitment to advancing the skills and knowledge base of firefighting professionals. The findings from this research are anticipated to provide valuable insights and recommendations that can directly inform policies and practices, contributing to the overall improvement of the WSFD.

The WSFD organizational culture plays a significant role in meeting the community's needs. The findings of this study play a crucial role in fostering a shift within the WSFD's existing culture, promoting the establishment of a mission-oriented organizational culture. Folks (2022) suggests that a mission-oriented culture puts the community's needs first by focusing on the members' skills in completing the most common missions. This research is needed to examine strategies recommended by CPSE that may impact WSFD's ability to sustain through periods of rapid industry change. This project is needed to examine if the construction of a training facility will enable the WSFD to adopt a philosophy that embodies seeking out the best industry practices and establish a process by which the WSFD can increase their frequency of evaluating those practices and implement those that are beneficial to their operations to improve performance.

As emergency responders, firefighters play a crucial role in mitigating disasters and safeguarding lives and property. This study is significant because it examines how highly trained firefighters extend beyond the immediate realms of public safety to directly influence the

economic resilience and prosperity of the communities they serve which is extrapolated in the Phoenix Report (Evans, 2013).

Problem Statement

As the profession continues to evolve, one of the ways to improve the service provided to the public and the safety of the firefighting force is through training (Hansen, 2013). Fire and rescue services are now challenged to swiftly adapt to the evolving nature of fires, leveraging advanced techniques, equipment, and training (Ivanov & Chow, 2023). The problem is that the WSFD currently faces a critical challenge due to the absence of a dedicated training facility within their jurisdiction for conducting burning or high-rise fire rescue training, physical fitness exercises, and a shortage of adequate classroom space for educational activities. Enhancing personnel performance is dependent on three primary components: people, equipment, and training (Dennis et al., 2015). The WSFD has the people and a willingness to train, the missing component is the facility with proper equipment. This deficiency in local training infrastructure severely limits WSFD's training stemming from constrained access to shared facilities in the vicinity. Dennis et al. (2015) highlights that training can have more influence and impact on organizational culture than any other factor. Consequently, the absence of a specialized training facility has profoundly impacted WSFD's organizational culture, impeding innovation and sustainability.

In the dynamic field of firefighting, prioritizing training is imperative to ensure the safety, health and wellness of personnel and effectively address the community's evolving needs. Recent changes in the built environment have necessitated changes in how firefighters respond to and work within structure fires (Moore-Merrell et al., 2021). Training is vital to ensure proficiency in implementing and mastering these changes. Pine (2017) asserts that the mission of

the fire service is to serve and safeguard the people and protect property, resources, the environment, and the quality of life. This is best accomplished by having well-trained firefighters who can meet the needs of their community. Addressing this challenge is crucial for the WSFD to maintain a high standard of proficiency, foster innovation, and ensure the continued safety and well-being of its personnel and the community.

Purpose Statement

This research aims to identify the applicable standards and requirements for establishing a live-fire training facility in our community. Research must be conducted to examine what, if any, effect the establishment of a training facility could have on organizational continuous improvement efforts to meet the community's changing needs. The purpose of this research is also to determine, if necessary, the need for a training facility that, once established, will enhance the physical fitness of personnel. Additionally, the research aims to identify and assess the best industry practices, implementing those relevant to the WSFD for performance improvement. The research will examine, if any, the need for a training facility which, when created, creates a process for the WSFD to continually assess the skills, knowledge, and abilities needed by personnel to meet the diverse community demands for service, and to address the changes and innovation that are occurring or will need to occur within the WSFD.

Research Questions

This research will use qualitative research methods to answer the following questions:

1. What are the beliefs of Winston-Salem Fire Department personnel as to the impacts of their skillsets and experience level as it relates to having a facility located in their jurisdiction to conduct live-fire training?

2. What is the impact, if any, a training facility has on the Winston-Salem Fire Department's ability to be innovative and improve its continuous improvement model?
3. What is the perceived impact of the existing facilities on sustaining physical fitness and preparing individuals for the Job-Related Physical Abilities Test (JPAT) among personnel in the given context?
4. What specific type of training facility and features are necessary for the Winston-Salem Fire Department to meet their training needs?
5. What challenges might be encountered in the process of establishing and maintaining a live-fire training facility?

Summary

Moving forward, Chapter 2 will provide an overview of the existing literature on the research topic, followed by Chapter 3, which will detail the methodological approach used for conducting research. Chapter 4 will examine the research results in detail to illustrate the premises identified. In closing, Chapter 5 will explore limitations and recommendations, if any, based on the research that was conducted during this capstone project.

CHAPTER 2: LITERATURE REVIEW

Introduction

Training is the cornerstone of the fire service, playing a pivotal role in instructing novice firefighters in acquiring new skills and ensuring the sustained proficiency of experienced firefighters. An exploration of existing research about live-fire training facilities was undertaken in a thorough literature review. The review revealed essential criteria the WSFD would be required to fulfill for establishing and maintaining a live-fire training facility within their jurisdiction. Additional literature from various disciplines was reviewed and examined to

investigate the community implications linked to establishing a live-fire training facility within the city limits of Winston-Salem.

Existing Literature

This literature review examines the key findings within the fire service literature regarding the establishment of live-fire training facilities and the consequential impact these facilities have on both the organization and the community. The literature review section encountered challenges in sourcing relevant information, as most peer-reviewed materials discovered did not meet the program's requirement, three of which have been published within the last five years. Despite these limitations, exploring databases such as the National Emergency Training Center Library, Google Scholar, EBSCO, and Columbia Southern University was undertaken to identify pertinent literature on live burn training facilities. Key terms searched included, Training, Fire Service Training Facilities, NFPA Training Requirements, ISO Fire Service Facility Training, Class A and B Firefighter Training Buildings, Class A and B Firefighter Training Towers, Fire Training Facility Construction Costs, Fire Training Facility Maintenance Costs, Fire Training Facility Funding Sources, Impact of Firefighter Training on Performance; Culture; Service Delivery; Firefighter Safety. The existing literature is structured into three sections. First, the existing literature will address firefighter training, providing information about the nature of training and practical, real-world scenario-based training within the fire service. Secondly, a comprehensive definition of the live-fire training facility will be provided, incorporating a historical overview of the utilization of such facilities in the fire service and consideration of relevant NFPA standards. Finally, the existing literature will address the impact of highly trained firefighters on community and economic development.

The WSFD grapples with providing its personnel with training that accurately reflects real-world scenarios. As the fire service undergoes continual evolution, enhancing the quality of service to the public and ensuring firefighter safety remains achievable through ongoing training initiatives (Hansen, 2013). Avruch (2009) most accurately defines training as it applies to the fire service:

Training is, first, the appropriate mode of instruction when confidence in the efficacy of certain knowledge and skills is widely accepted or certified in one way or another and such knowledge or skills must be “passed on” to a new cohort of practitioners. Second, training is appropriate when new ways of construing or applying knowledge and skills (a new formula or a new technique) are called for, so that even experienced (previously trained) practitioners need to be retrained. (p. 165)

Training encompasses instructional methods designed to impart knowledge and skills within a controlled environment, with the ultimate goal of later applying and transferring acquired expertise seamlessly into a more natural work setting (Bonnell, 2018). Across various professions, training has traditionally been employed to guarantee that personnel are skilled, proficient, and operate safely. To achieve these objectives, various training frameworks are available, including, but not restricted to, competency-based, blended learning, classroom, eLearning, simulation, team-focused, and scenario-based approaches. The WSFD employs a combination of classroom training, team-focused training, and simulation to attain their training objectives (WSFD Training Division, 2021a).

Team training is paramount in the fire service, fostering collaboration, enhancing coordination, and ensuring a cohesive response to dynamic emergencies. According to experts, team training is a systematic initiative aimed at developing the knowledge, skills, and attitudes

necessary for effective teamwork and team performance (Linhardt et al., 2023). The nature of firefighting operations is inherently team-oriented, given the dynamic and challenging nature of the work. The goal is to enhance individual proficiency by focusing on collaborative learning, fostering cohesive teamwork among firefighters. This approach aims to improve communication and overall team dynamics during emergency responses, ultimately equipping the fire service to effectively address and mitigate challenges. The emphasis on ongoing team training underscores its significance in the dynamic field of firefighting.

Simulation training has emerged as a pivotal component in various fields, offering a dynamic and immersive approach to skill development, decision-making, and preparedness. In the medical field, Gaba (2007) states “Simulation is a method that substitutes or enhances real-life experiences with directed experiences, mimicking significant aspects of the real world in a fully interactive manner (p. 126).” Simulation training in the fire service encompasses a diverse range of methodologies designed to enhance firefighters’ skills and preparedness. Bracco et al. (2021) considers simulation training as one of the best methods for transferring new knowledge, skills, and procedures shaping behavior.

Virtual Reality (VR) Simulation leverages computer-generated environments, providing a safe space for firefighters to interact with firefighting scenarios in a virtual setting (Bracco et. al, 2021). The live-fire simulation takes a more tangible approach, offering controlled, real-world fire scenarios within specialized facilities for hands-on training. Tabletop Exercises facilitate strategic discussions in a classroom setting, enabling participants to plan responses to simulated emergency scenarios. Computer-based simulation employs interactive programs to simulate firefighting scenarios, fostering a virtual learning environment. Full-scale mock-ups involve physical replicas to recreate realistic firefighting scenarios, providing practical, hands-on

experience. Incident Command System (ICS) Simulation focuses on training personnel in managing and coordinating emergency responses. Smokehouse Training exposes firefighters to simulated smoke-filled environments, enhancing skills related to visibility challenges and navigation. Emergency Vehicle Operation Course (EVOC) Simulation replicates scenarios related to driving and operating emergency vehicles, emphasizing safety and effective response. Hazmat Simulation concentrates on training for incidents involving hazardous materials, while Search and Rescue Simulation allows firefighters to practice locating and rescuing individuals in various emergency situations. This diverse array of simulation types collectively ensures that firefighters are well-prepared for the dynamic challenges they may face in the line of duty. Researchers assert that simulation training provides a secure, ethical, and cost-effective alternative for practicing specific real fire scenarios, offering firefighters the opportunity to train until they reach a specific competency level (Williams-Bell et al., 2015).

Live-fire training facilities have consistently served as the cornerstone for fire training within the fire service, providing a vital and realistic platform for honing essential skills and preparing firefighters for real-world scenarios. Established in 1896, the NFPA (2021) develops and publishes a wide range of codes and standards intended to minimize the risk and effects of fire and other hazards. More than 300 codes and standards cover various aspects, including building design, installation of fire protection systems, emergency response procedures, and safety in specific industries (NFPA, 2021). NFPA's codes and standards are widely adopted and used by governments, regulatory bodies, industries, and professionals globally. They are regularly updated to incorporate advancements in technology, research findings, and best practices.

Referencing NFPA 1402 (2019a), this standard specifically addresses the classification and utilization of fixed structures designed as "mobile props." These mobile props serve as integral components in fire service training scenarios, and NFPA 1402 provides detailed guidelines on their characteristics, specifications, and safe operational practices. The standard focuses on ensuring the reliability and appropriateness of these mobile props for training purposes, emphasizing factors such as design, construction, and operational considerations. By delineating clear standards, NFPA 1402 aims to enhance the safety and effectiveness of live-fire training exercises conducted by fire departments and training facilities.

Commonly referred to as "burn buildings", NFPA Standard 1402 (2019a) defines a live burn training structure as structures built of noncombustible conventional building materials, such as concrete, masonry, and steel, as well as containerized training structures in which live-fire training evolutions are conducted. Per the guidelines outlined in NFPA 1402, this encompasses permanent structures that are designated as "mobile props," including the following:

- A. Pre-engineered metal structures that can be disassembled and transported to a new site.
- B. Containerized structures in which one or more containers are assembled, whether single-story or multistory.

Live-fire training structures do not include the following:

- Fire behavior labs (also known as "flashover containers") that are made from two offset shipping containers for the sole purpose of demonstrating fire behavior.
- Mobile live-fire training props.
- Fire investigation training structures and props.

- Acquired structures used for live-fire training unless the acquired structure is intended to be used for live-fire training evolutions for more than 3 days total, in which case it would need to follow the requirements of NFPA Standard 1402.
- Structures that are used for live-fire training in the use of SCBA where only smoke conditions are created, without a live fire, and the participants are not subjected to risk of the effects of fire other than the smoke produced.
- Structures that simulate industrial applications under live-fire conditions in which no personnel enter or stand upon the structure, such as a refinery fire simulation.

Live-fire training structures could be designed to support the following training objectives:

- Fire behavior.
- Fire spread or extension.
- Interior fire attack.
- Rescue.
- Ventilation.
- Forced entry.
- Laddering.
- Various simulated occupancies similar to those found in the surrounding region (NFPA, 2019b).

Amidst the dynamic landscape of fire service training, live burn facilities are progressing to make sure firefighters are prepared for diverse emergencies.

NFPA 1403 (2018) outlines the requirements for live-fire training evolutions in acquired structures. Issued by the NFPA's Committee on Fire Service Training, the document provides comprehensive guidelines to ensure the safety of firefighters and the effective execution of live-

fire training exercises. NFPA 1403 addresses various aspects of live-fire training, including selecting and preparing acquired structures, safety measures, instructor qualifications, and emergency procedures. The standard emphasizes the importance of realistic training scenarios while prioritizing the safety of participants and minimizing risks associated with live-fire exercises. Adherence to NFPA 1403 helps fire departments and training facilities establish a framework for conducting live-fire training in a controlled and secure manner, contributing to the overall competence and preparedness of firefighting personnel.

In North Carolina, fire departments employ diverse live-fire training structures and props for advanced firefighter training exercises. Studies indicate that within North Carolina, training towers are predominantly utilized by fire departments, showcasing a wide range of complexity in their designs. Literature associated with the successful construction of the neighboring KFD live-fire training facility was considered when determining the feasibility of constructing a similarly designed facility in Winston-Salem. Referencing KFD construction proposal received from American Fire Training Systems, KFD's live burn training facility included design elements that would satisfy WSFD training needs and can be referenced in Appendices C and D (D. Willard, Assistant Chief of Training KFD, personal communication, November 15, 2023).

Beyond the immediate benefits of improving emergency response capabilities, well-trained firefighters contribute significantly to a community's strength and adaptability, playing a pivotal role in enhancing community resilience and fostering economic development (Kim et al., 2018). Firefighter's proficiency in handling emergencies ensures the safety and security of residents, instilling a sense of confidence and trust within the community. This heightened level of safety not only attracts businesses and residents and establishes a foundation for community resilience. By actively participating in disaster preparedness and response, firefighters contribute

to the community's ability to withstand and recover from various challenges, whether natural disasters or unforeseen emergencies (Penny & Spatcher, 2018). This resilience, subsequently, establishes a favorable environment for economic growth, as businesses and individuals are more inclined to invest in and prosper within a secure and well-prepared community. Additionally, firefighter training involves building a network of skilled professionals capable of addressing various challenges. Alongside this, firefighters contribute to community resilience by fostering a culture of preparedness, which, in essence, creates a sturdy foundation for sustainable economic development, extending the impact of their training beyond firefighting itself (Evans, 2013).

The Insurance Service Office (ISO), using the Public Protection Classification (PPC), has established a standardized approach for evaluating the effectiveness of a fire department in responding to emergencies (Beasley, 2018). The ISO classification of a fire department significantly impacts the community and the service it delivers, with training playing a pivotal role in this assessment (Caliendo, 2000). Training is covered in the fire department section of the Fire Suppression Rating Schedule (FSRS). A well-trained fire department is more likely to achieve a favorable ISO rating, as training directly influences personnel readiness, response times, and overall emergency management capabilities. The fire department section contributes 50 percent of the total ISO score, with the training component contributing 9 points within that 50 percent (Grindle, 1999). This high level of preparedness, in turn, contributes to a lower ISO rating, signaling to insurance companies that the community is well-protected against potential risks.

Firefighters who undergo regular and diverse training exercises are better equipped to handle the evolving challenges of emergency response. This proficiency is reflected in the ISO assessment, positively influencing the community's ISO classification (Beasley, 2018).

Moreover, a well-trained fire department enhances the community's overall safety. The ability to respond effectively to emergencies not only mitigates property damage but, more importantly, protects lives. According to Caliendo (2000), residents benefit from reduced insurance premiums due to the lower ISO rating, creating a tangible financial advantage. Additionally, the community gains a sense of security, knowing that its fire department is well-prepared and continually improving through training initiatives (Caliendo, 2000). Therefore, the importance of training extends beyond the immediate capabilities of the fire department, playing a crucial role in shaping the community's safety, resilience, and overall quality of life.

Synthesis of the Existing Literature

Training is a critical component for the WSFD in preparing its personnel to effectively respond to real-world scenarios. As the fire service continually evolves, ongoing training initiatives are essential for enhancing service quality and ensuring firefighter safety (Hansen, 2013). Avruch (2009) and Bonnel (2018) define training as a means of imparting knowledge and skills, either for passing on established expertise or for introducing new methods and techniques, emphasizing the importance of controlled environments for initial learning. The WSFD employs a multifaceted training approach, incorporating classroom sessions, team-focused exercises, and simulations (Winston-Salem Fire Department Training Division, 2021). Team training is particularly crucial in the fire service, fostering collaboration, coordination, and a cohesive response to emergencies (Linhardt et. al, 2023). Simulation training, including Virtual Reality (VR) Simulation and Live-Fire Simulation, offers diverse methodologies to develop skills and decision-making, ensuring firefighters are well-prepared for the dynamic challenges they may face (Gaba, 2007; Bracco et al., 2021). Live-fire training facilities, following NFPA standards, provide a realistic platform for honing essential skills, with NFPA 1403 guiding the safe

execution of live-fire training exercises in acquired structures. Beyond immediate benefits, well-trained firefighters significantly contribute to community resilience and economic development, creating a secure environment that attracts businesses and residents (Kim et al., 2018; Penny & Spatcher, 2018). This comprehensive training approach not only ensures firefighters' proficiency but also establishes a foundation for sustainable economic growth within the community (Evans, 2013).

Summary

The literature review provides valuable perspectives on the various facets of firefighter training. It underscores the crucial role of live-fire training facilities, making it a viable consideration for the WSFD. Furthermore, while the review provides a structured analysis of firefighter training, live burn training facilities, and their impact on communities, it may benefit from a more extensive exploration of alternative databases or sources to overcome potential gaps in the existing literature. The insights gathered from the literature review and the findings outlined in the methodology and results sections, are anticipated to contribute substantially to formulating precise recommendations on the feasibility of constructing a live-fire training facility within the city limits of Winston-Salem, North Carolina.

CHAPTER 3: METHODOLOGY

Introduction

This study employs a multi-faceted approach to investigate the factors influencing the establishment of a live-fire training facility for the WSFD within their community. Utilizing a generic qualitative research design, the project aims to understand the meanings individuals or groups attribute to this initiative. Various qualitative methods, including in-depth interviews, were used to gather insights from WSFD members, spanning different ranks and roles. The research process involved careful participant selection, data collection, and analysis facilitated by

Delve. Ethical considerations, guided by the American Psychological Association (APA) and prescribed National Fire Academy Executive Fire Officer Program (EFOP) standards, aimed to ensure the integrity of the study despite my affiliation with the WSFD.

Research Design

The chosen research design for this capstone project is generic qualitative. To grasp the methodology employed in this project, it is essential to first comprehend the definition of qualitative research. Creswell and Creswell (2018) suggest that qualitative research helps understand how people see social or human issues. This involves asking questions, collecting data where people are, looking for patterns in the data, and figuring out what it all means.

To achieve the objectives outlined in the research purpose, the study will utilize various qualitative research methods, including in-depth interviews and focused discussions. Pine (2017) opted for qualitative inquiry to examine and uncover that time and cost emerged as the most frequently mentioned constraints on training throughout Colorado. Moreover, Moody (2004) utilized qualitative research methods to explore potential solutions for the insufficient training facilities for training new recruits in the Des Moines Fire Department. Upon choosing the generic qualitative inquiry as the preferred approach for this research, it was determined that identifying the most suitable group of experts to participate became imperative.

Population and Sample Size

This selection process involved carefully examining potential participants, including both internal and external stakeholders of the WSFD. Given the research's focal point on establishing a live-fire training facility for the WSFD, active members within the WSFD were the targeted population of the research.

The research population for this study comprises the active members of the WSFD, which included individuals serving in administrative as well as field suppression roles. As

Chapter 1 of the project outlines, the WSFD consists of 390 members distributed across various ranks and positions. These positions range from firefighter I to battalion chief, encompassing roles such as fire engineers, captains, shift safety and training officers, and administrative personnel. The sample for the study was carefully selected from this population to ensure representation across different ranks and shifts within the WSFD. A total of 18 members were included in the sample, comprising three members each from firefighters, engineers, captains, shift safety and training officers, battalion chiefs, and three administrative personnel. The selection process employed a systematic random sampling approach, where individuals were chosen based solely on their rank without considering other demographic factors such as age, gender, or experience. This methodology aimed to gather diverse perspectives while maintaining fairness and impartiality in participant selection.

Three administrative personnel not involved in suppression duties were included in the sample: one administrative battalion chief of training, one assistant chief of training, and one assistant chief of operations. All administrative personnel work a traditional Monday through Friday schedule and may be required to respond to certain emergencies outside their work schedules. The administrative battalion chief of training oversees the training branch including budgeting, planning, and inventory. The battalion chief of training supervises shift safety and training officers and reports to the assistant chief of training. The assistant chief of training plans, coordinates, and directs the activities of the training division and reports to the deputy fire chief.

Together with the administrative personnel, the sample size was ultimately set at 18 members of the WSFD. Once the sample size was established, a systematic random sampling approach was employed to select 18 interviewees. Firefighters, engineers, captains, shift safety

and training officers, and battalion chiefs were organized by platoon, listing, and segregating them accordingly. Subsequently, each member was assigned a number based on their rank, which was then inputted into a number randomizer to generate my random sample.

Participants from the WSFD were selected with great care to ensure a comprehensive representation of the organization's varied roles and responsibilities, particularly about training. It is essential to consider their perspectives since participants are directly affected by or involved in training, providing valuable insights into the effectiveness and implementation of training programs. By including members spanning different positions, from firefighter I to battalion chief, the objective was to gather perspectives and insights from diverse experiences within the department. Additionally, by selecting three members from each rank, including administrative personnel, the sample was designed to provide a well-rounded understanding of both operational and administrative aspects of the WSFD. This approach aimed to capture a holistic view of the organization's needs and challenges related to establishing a live-fire training facility.

Incorporating administrative personnel not directly engaged in suppression duties provided essential perspectives from key decision-makers. These perspectives are invaluable for considering the construction of a live-fire training facility. Overall, the selection process was geared towards ensuring a balanced and comprehensive representation of WSFD's workforce to facilitate a thorough examination of the research topic.

Instruments

Semi-structured interviews were developed and used for each interview (Appendix F). The following questions were asked of each participant:

Demographic Information:

- a. What is your current rank and assignment within the Winston-Salem Fire Department (WSFD)?
- b. How many years of service have you completed with WSFD?
2. Perceptions of Current Skillsets and Experience:
 - a. How do you believe your current skillsets and training contribute to your role within WSFD?
 - b. In your opinion, how might the presence of a live-fire training facility in your jurisdiction impact your professional capabilities?
3. Impact on Continuous Improvement and Innovation:
 - a. To what extent do you think a live-fire training facility would enhance WSFD's ability to innovate and improve its continuous improvement model?
 - b. Can you provide specific examples or scenarios where you believe such a facility could positively influence organizational innovation?
4. Effectiveness of Existing Facilities:
 - a. How do you perceive the impact of the current facilities on sustaining physical fitness among WSFD personnel?
 - b. In your experience, how well do the existing facilities located within the city limits of Winston-Salem prepare individuals for the Job-Related Physical Abilities Test (JPAT)?
5. Requirements and Preferences for a Training Facility:
 - a. What specific features or attributes do you believe a live-fire training facility should have to meet the training requirements of WSFD effectively?
 - b. Are there any industry best practices in training facility design and operation that you think would be particularly relevant for WSFD?

6. Overall Impact on WSFD:

- a. How do you envision the establishment of a live-fire training facility having a negative impact on WSFD's on the organization and ability to meet diverse community demands for service?
- b. In your opinion, how might such a facility assist WSFD in addressing changes and innovations within the department?

7. Challenges and Concerns:

- a. Are there any challenges or concerns you foresee in the process of establishing and maintaining a live-fire training facility? If so, please specify.

The methodologies included utilizing a survey featuring a questionnaire, conducting interviews, and performing a comprehensive document review. The initial research inquiries sought to clarify the interviewees' association with the WSFD. The second group of research questions focused on understanding the beliefs of WSFD personnel regarding the impacts of their skillsets and experience about the presence of a live-fire training facility in their jurisdiction. In-depth interviews were conducted with a purposive sample of WSFD personnel, capturing their perspectives and insights on how establishing such a facility might influence their professional roles and responsibilities.

The third group of research questions sought to explore the impact of a training facility on WSFD's ability to innovate and improve its continuous improvement model. To address this question, focus group discussions were conducted with key stakeholders within the WSFD, including leadership and training personnel. These discussions provided a platform for participants to share their experiences and perspectives on the potential influence of a training facility on organizational innovation and continuous improvement efforts.

The fourth group research questions aimed to assess the perceived impact of existing facilities on sustaining physical fitness and preparing personnel for the Job-Related Physical Abilities Test (JPAT). In-depth interviews were conducted with WSFD personnel who have experienced the current facilities, allowing for a nuanced exploration of their perceptions of the effectiveness of the existing facilities located within the city limits of Winston-Salem in meeting physical fitness and JPAT requirements.

Subsequent research questions explored the type of training facility required by the WSFD and associated challenges or concerns. Key informants, including WSFD leadership and personnel, were interviewed to gather comprehensive insights into the WSFD'S specific needs and potential challenges for establishing and maintaining a training facility. Before commencing the interviews, the interview questions were field tested. An initial version of the survey was administered to a sample target audience, and approval was obtained from Columbia Southern University staff. This process enabled the collection of valuable insights that aided in refining the survey questions before the actual interviews took place.

Field testing of the research instruments was conducted by implementing them in real-world settings to evaluate their effectiveness and alignment with the study's objectives. Representative WSFD members, reflecting the sample population, were selected for mock interviews where the prescribed interview questions were administered. Feedback was collected concerning clarity, relevance, and any difficulties with the questions. Subsequently, the questions underwent revisions to address shortcomings and enhance their quality based on this feedback. After testing and refinement, research questions for the main study were finalized, ensuring they were consistent with the study's goals and capable of producing the desired data from participants.

Overall, this qualitative research design enabled an in-depth exploration of the complex factors surrounding establishing a live-fire training facility within the city limits of Winston-Salem, providing valuable insights into personnel beliefs, organizational innovation, physical fitness sustainability, facility requirements, and challenges.

Research Process

The research initiation involved contacting 18 potential interviewees by sending solicitations through the WSFD's distribution email list. The objective was to include 1 firefighter, 1 engineer, 1 captain, 1 shift safety and training officer, and 1 battalion chief from each of the three platoons. Additionally, emails were directed to 1 battalion chief of training, 1 assistant chief of training, and 1 assistant chief of operations. Additional interviews would be conducted if the initial target of 18 interviewees were surpassed.

Once the potential interviewees were identified, contact was made, notifying them of their selection for participation in the research project. After confirming their availability and willingness to participate, the interviewees received an email introducing the study and requesting them to review, sign, and return the attached consent form (Appendix E). Interviewees were assured that I would only have access to their name and rank within the WSFD, ensuring the confidentiality of their interviews. Each interviewee was subsequently assigned a generic identifier comprising an Interviewee Number, platoon details, rank, and years of service.

All interviews were conducted in person or via phone and recorded for documentation purposes. The audio recordings underwent transcription using Temi, an audio-to-text transcribing service, to generate written transcripts for each interview. The Temi editing service was subsequently employed to scrub the interviews, eliminating filler words and rectifying

transcription errors. It is important to note that no substantive content of the interviews was altered during this process. The Temi transcripts were then converted into Microsoft Word documents for further review.

For qualitative analysis and data coding, Delve, a specialized service, was utilized to categorize interview results, identify common responses, and unveil emerging themes. The collected data was meticulously organized, explored, and assessed to recognize patterns and recurring themes. Delve facilitated the categorization of data through charts and graphs to identify and tabulate information and persistent themes.

Ethical Considerations

The National Fire Academy Executive Fire Officer Program (EFOP) employs the Publication Manual of the American Psychological Association (APA) (2020) as a reference for professional writing, citations, and references (National Fire Academy, 2022). Furthermore, the EFOP relies on Research Design as an additional resource to guide researchers in conducting ethical research (National Fire Academy, 2022). Both publications have set standards for the ethical, legal, and professional conduct of research and its subsequent publication.

The APA (2020) establishes clear ethical guidelines for interview procedures with research participants. The materials used to request participation clearly described the research's purpose and outlined participants' anticipated involvement. Consent forms, provided by the EFOP, were utilized to explicitly specify the information to be collected, its intended purpose, and the methods of storage (National Fire Academy, 2022). Moreover, these consent forms explicitly detailed how interviewees' confidentiality and privacy would be safeguarded.

The key ethical consideration that was discussed during the research is my affiliation with the WSFD. My role within the organization could introduce bias, which might impact the

objectivity of drawing conclusions and compromise the integrity of the research. To alleviate potential bias, purposefully objective interviews were conducted, and the participants were explicitly assured that their roles or responsibilities within the WSFD would remain unaffected by their participation or responses. Each participant was assured that their involvement was voluntary and that they could withdraw from the interviews at any stage.

Summary

This research employed a generic qualitative approach to investigate the establishment of a live-fire training facility for the WSFD. The study targeted a diverse sample of WSFD members, spanning various ranks and roles, utilizing in-depth interviews and focused discussions to gather insights. The research design allowed for a nuanced exploration of factors influencing the facility's establishment, covering personnel beliefs, organizational innovation, physical fitness sustainability, facility requirements, and potential challenges. The population comprised of 390 members, distributed across three shifts, with interviews conducted with WSFD firefighters, engineers, captains, shift safety and training officers, battalion chiefs, and assistant chiefs. The qualitative analysis, facilitated by Delve, aimed to identify common responses and themes. The research process involved email solicitations, voluntary participation, and transparent communication regarding confidentiality. Ethical considerations adhered to guidelines from the APA and the EFOP, ensuring the integrity of the research and addressing potential biases arising from my affiliation with the WSFD.

CHAPTER 4: STUDY RESULTS

Introduction

This qualitative inquiry sought to evaluate the necessity of jurisdictional specialized training facilities to enhance skill development and proficiency within the WSFD. The principal

objective was to investigate whether the establishment of a live-fire training facility within the city limits of Winston-Salem, North Carolina, could influence organizational continuous improvement efforts aimed at addressing the evolving needs of the community.

Fourteen interview questions were developed, and field tested to guide the research toward answering the five core questions of this study:

1. What are the beliefs of Winston-Salem Fire Department personnel as to the impacts of their skillsets and experience level as it relates to having a facility located in their jurisdiction to conduct live-fire training?
2. What is the impact, if any, a training facility has on the Winston-Salem Fire Department's ability to be innovative and improve its continuous improvement model?
3. What is the perceived impact of the existing facilities on sustaining physical fitness and preparing individuals for the Job-Related Physical Abilities Test (JPAT) among personnel in the given context?
4. What specific type of training facility and features are necessary for the Winston-Salem Fire Department to meet their training needs?
5. What challenges might be encountered in the process of establishing and maintaining a live-fire training facility?

Demographics of the Participants

Recruitment for participation in this study targeted chief fire officers initially, and subsequently extended to lower-ranking members of the WSFD fire suppression division. Eighteen individuals from the WSFD initially expressed willingness to participate, comprising of 1 firefighter, 1 engineer, 1 captain, 1 shift safety and training officer, 1 battalion chief from each

of the three platoons, and 3 administrative chief fire officers. Ultimately, interviews were conducted with 6 firefighters, 1 engineer, 3 captains, 3 battalion chiefs, and 2 assistant chiefs, totaling 15 participants. Among these participants, 3 held administrative roles, while 12 were assigned to fire suppression duties. Notably, there were no specific prerequisites such as specific training or minimum years of service for individuals to partake in the interviews. Participant's years of service varied from 1 to 28 years of service, see Appendix G.

Figure 1

Participant Organizational Role Summary

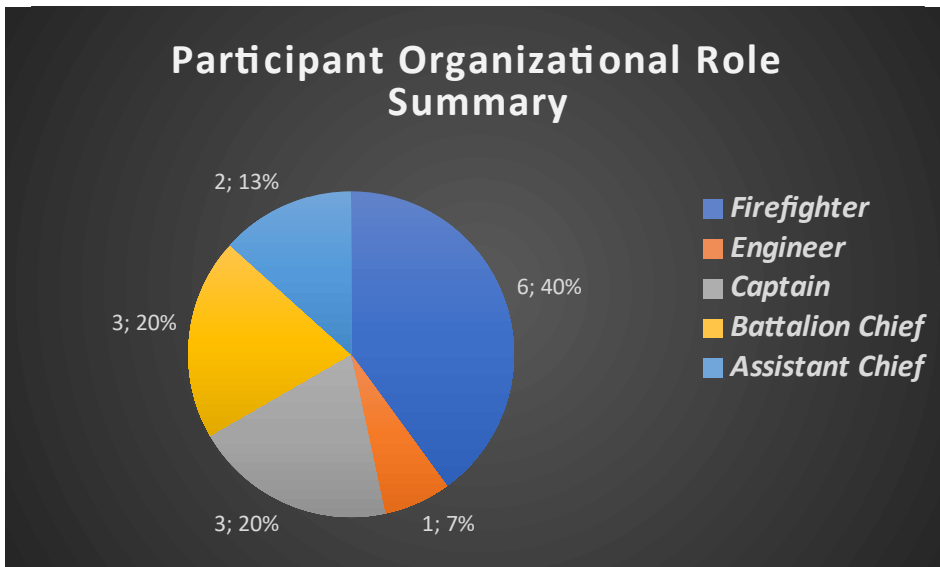
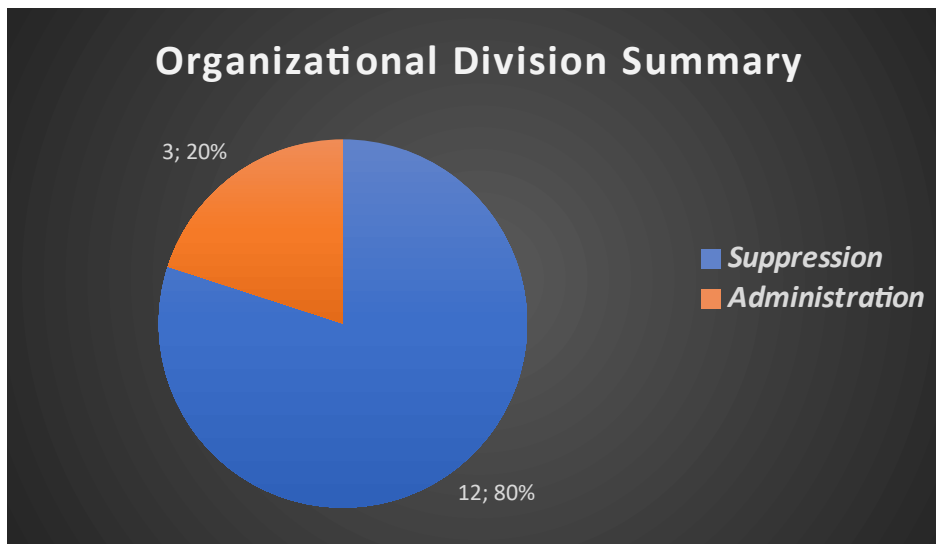


Figure 2

Organizational Division Summary



Research Results

The interview questions were crafted to explore the multifaceted aspects related to the establishment of a live-fire training facility within Winston-Salem's city limits. The interview questions aimed to yield valuable insights into personnel beliefs, organizational innovation, sustainability of physical fitness, facility requirements, and associated challenges.

Questions one and two addressed the demographics of the interview participants.

Interview Question 1:

What is your current rank and assignment within the Winston-Salem Fire Department?

Summary of Results:

All participants disclosed their current position and assignment. This served to ensure that all platoons and the intended ranks were adequately represented.

Interview Question 2:

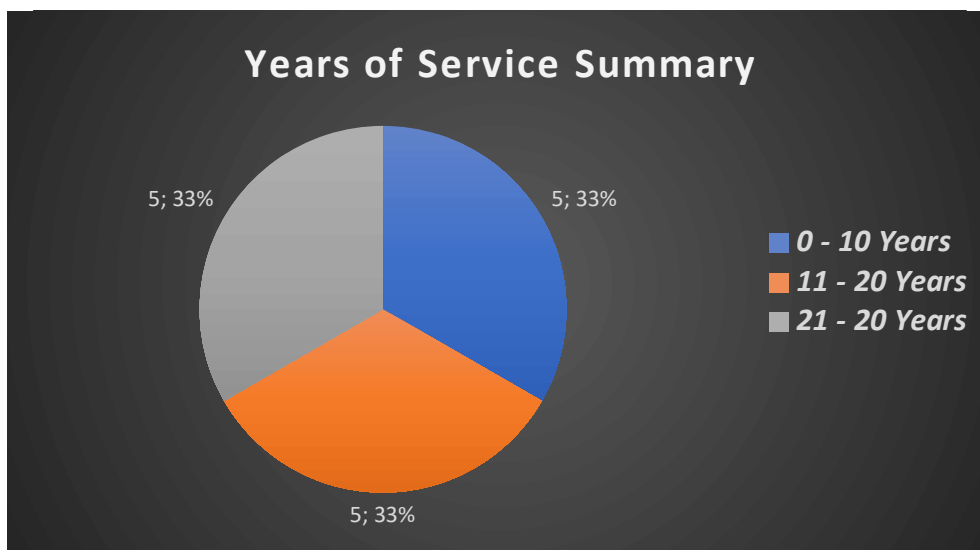
How many years of service have you completed with the WSFD?

Summary of Results:

There were five participants with 0 – 10 years of service (Participants No. 2, 4, 5, 6, and 7); five participants with 11 – 20 years of service (Participants No. 3, 9, 10, 12, and 13); and five participants with 21 – 30 years of service (Participants No. 1, 8, 11, 14, and 15). Figure 3 illustrates the years of service each participant had completed with the WSFD at the time of the interview.

Figure 3

Years of Service Summary



Theme 1: Improved Skillsets and Capabilities

Referencing research question one, participants were queried about the perceived contribution of their existing skillsets and training to their current positions within the WSFD. All respondents affirmed that their skillsets and training have had a beneficial impact on their roles within the organization. Participant 8 stated, “As a seasoned firefighter, I've acquired a substantial amount of both general and technical knowledge through training, which I can impart to the younger members joining the ranks alongside me. It's my responsibility as a senior member of the department to mentor those following in my footsteps.”

Participants were also asked how the presence of a live-fire training facility in their jurisdiction might impact their professional capabilities. The consensus was the presence of a live-fire training facility in WSFD's jurisdiction would have a positive impact on their professional capabilities. Participant 10 stated, "I think it would help my professional capabilities and my crews as well as far as replaying calls and going back and I guess brushing up on material that we hadn't seen in a while and just the overall closeness of the facility instead of having to travel so far." Being visible in the community during training sessions would increase WSFD's community outreach capabilities was asserted by Participant 2, "I think we could show the public how we train, how we're advancing skills, and further increasing our capabilities."

Theme 2: Accessibility Due to Location

Through analysis of the data, it was found that fifty-three percent of the participants indicated that having a live-fire training facility within the WSFD's jurisdiction would positively contribute to enhancing training accessibility. Participant 3 stated, "The impact would be tremendous due to the increased accessibility to train and or implement new tactics and techniques which could potentially lead to increasing our capabilities." Participant 1 asserted, "Having our own, it'd be a lot more feasible and easier to get to inside the city on a daily basis for companies to be able to conduct any sorts of training." Participant 14 stated, "It would give greater access to in-service training to the companies and not just live fire, but the entire training facility. We need a facility that lets us train more consistently, more often than the current three months of the year that we schedule training." One participant mentioned, "By us not having one in town and my current work situation, I can't go to drill ground as much as I would like I would like to be able to stay current on those things and know what the guys are experiencing. If

we had our own live-fire training facility, I may be able to do more of that, be present on the training grounds.” Participant 13 remarked, “Our current site is at least 15 minutes outside of most of our stations and in some cases 30 to 45 minutes. So, it deters a lot of people from trying to make that trip to get that training when they have other things, they need to be doing in their home territories or running calls.” Participant 7 stated, “I think it would be great to have a live-fire training facility just to get those reps under the heat, under the smoke, and without having to go outside of our city limits.”

While the findings did not directly address any of the four specific research questions, their significance lies in their contribution to identifying a crucial barrier hindering WSFD's innovation and continuous improvement endeavors.

Theme 3: Enhanced Innovation and Continuous Improvement

The interviews uncovered unanimous agreement among all participants regarding the potential positive influence of a training facility on WSFD's innovation capacity and its ability to enhance continuous improvement efforts. These findings shed light on the inquiry posed in research question two, examining the impact, if any, of a training facility on the Winston-Salem Fire Department's innovation and continuous improvement model. Participant 14 stated, “Well, you know, in my opinion, and in a lot of people's opinions, training drives the culture of a department. So, if you have a proper training facility and you deliver the proper content in that facility, it drives all the changes in the innovation, you know, other than what's directed down from the fire chief's office.” Participant 15 asserted, “Every fire department has to keep up with trends of the fire service and having access to be able to try new things when new equipment comes out, whether it be nozzles, all the different pieces of equipment that are changing that, we have a place to train and learn how to use them properly.”

Participant 5 stated, “We're big on ISO right now. If we were able to put a training facility on fire station grounds within those three acres, like every time the truck pulls around the back of the bay, that's facility training that we could document for the department. With the fire service always changing, I feel like you're able to recreate a lot of stuff and try new things in a safe and controlled environment.”

Participant 14 highlighted that regular training can result in efficient organizational innovation. “Consistency will allow the department to, uh, you know, the more access and the more consistent you are with training, the more tweaks you can make as you go along to improve things. If you're only up there three months a year, for a month at a time, then you complete training and then you have an opportunity to improve based on that training. If we're able to go to a site every month or every two months, then there's more opportunities for adjustment, as opposed to what we're doing now.” Participant 14 added, “I mean, an example is next door at Kernersville Fire Department where they have a facility in the back lot of one of their stations. When you go over there, you can see it in their drill ground performance. I don't actively respond to fire calls, so I'm not entirely aware of their on-scene performance, but you can observe from their performance on the drill ground that having accessible and consistent access to a facility enhances their organization.”

Theme 4: Current Facility Fails to Meet Physical Fitness Needs

Referring to research question three, the study investigated the perceived effectiveness of the current facilities in maintaining physical fitness and readiness for the Job-Related Physical Abilities Test among participants in the specified context. All participants except Participant 6 and Participant 10 indicated that the live-fire training facility at the WSFD does not adequately address the physical fitness requirements of personnel. Participant 6 added, “Our facilities have

a positive impact on sustaining our physical fitness.” Moreover, Participant 10 stated, “I think it has a great impact.” Participant 13 stated, “It's not very motivating to drive 15 minutes or 20 minutes to go there just to run the stairs and drive 15 minutes back. I feel like if it was in the city and we had a facility that we could, we could practice running the stairs, so you're better at the JRPAT. It's going to be a little bit easier to go five minutes down the road, run the stairs, and come back and get back into your regular duties. I think it's asking a lot for people to drive to King to run that same facility, just so they're familiar with it and more comfortable with it.”

Participants indicated that the facilities used within the city limits were inadequate in addressing the physical fitness requirements of the organization. Participant 3 added, “Beaty has limited space and equipment which limits the effects and opportunities for obtaining and maintaining a healthy level of physical fitness.” Participant 12 remarked, “They don't really meet the needs because the ability test is done at the community college. Therefore, to get to go there and practice, you would have to schedule a time, and the community college is not scheduling times for individuals, so you would have to do it on a broad scale instead of a daily continuous improvement.” Participant 9 expressed, “The impact of the current facility doesn't really promote a uniform approach at this time. So, we need to fix that and more so possibly put a facility in different each battalion. That way all battalions, can have a centralized location to where they can go and get the physical fitness.”

Theme 5: Inadequate Training Facilities When Preparing for the Job-Related Physical Abilities Test (JRPAT).

Research question three aimed to uncover the perceived impact of the existing facilities on preparing individuals for the Job-Related Physical Abilities Test among personnel in the given context. Data analysis uncovered that all participants, except for Participant 6,

unanimously agreed that the training facilities of the WSFD located within city limits did not adequately prepare individuals to meet the organizational standards of the WSFD's JRPAT.

Participant 6 remarked, "I think we do a good job of what we have. Like at the Batty Center we train, we have certain workouts that we do, and it helps us get ready for the JRPAT." Contrarily, Participant 11 exclaimed, "Well, when we talk about existing facilities, I don't think we have existing facilities other than if you can go to Beatty Center to use that gym. Unfortunately, where we're located, that's not a true option for us. Right now, existing facilities, I feel are extremely limited and not available to all personnel."

Participant 7 stated, "I would say slim to none because we don't have a Kaiser to practice on. I mean we are lucky enough to have stairs here at the station to go up and down, but a lot of stations are single-story. We either have to drive out of our territory or out of our way to a facility that's just mix-matched to try to simulate JRPAT movements. Lucky enough to have a ladder truck here so we can do that on our own. For the JRPAT, I don't think there's a whole lot we got that we don't have to improvise. Majority of the time we have to get creative to make do with what we have." Participant 10 states, "They really don't. The workouts that we have developed over the last year help us some, but nothing can really simulate our JRPAT without going through the actual course. Some exercises we do are similar, and they help your body repair, but nothing can prepare you like the actual course."

Participant 14 affirmed, "I don't think it's adequate what we have now. I think we're like, again, our fit to thrive trainers are doing a good job at doing, you know, similar, type of movements that you do during the JRPAT. If we had a tower, you know, for instance, if we had a site where you could drag hose outside and you could practice more often on the actual test than coming up here. Having access to a full site would help us."

Theme 6: Multi-Functional Facility Design

Regarding research question four, the data indicated that all participants expressed a preference for a multi-functional live-fire training facility. This facility could potentially adopt either the modular Conex design concept or the traditional multi-story large masonry structure. Participant 14 stated, “You want to be able to rearrange it to different arrangements of rooms as you're making entry into different types of searches. Be able to change it from residential to, you know, small business or commercial or, you know, large area search. You need enough space for all that. Beyond live fire, you need the ability to do all the technical rescue elements, hopefully, have a hazmat setup, apparatus operator, and an area to be able to set up ladders.”

Participant 2 remarked, “Traditionally, fire service facilities have been established within the community college systems, often in the form of brick-and-mortar structures. Over time, these facilities may deteriorate or become less effective due to wear and tear. There has been a noticeable shift towards modular-style facilities, such as Conex boxes, which can be transported by truck and assembled into various training props. These modular units can be easily replaced with new units when they begin to deteriorate over time.” Participant 6 added, “I think we should have a burn building. Something that simulates car fires, LPG tanks, and sprinkler system rooms that help our guys be more familiar with standpipes and different types of sprinkler systems. Many other things that could help us, but we don't have one at all, so anything is better than nothing.” Participant 12 added, “I think the model is called FDTN, Fire Department Training Network in Indianapolis. Their facility is a 40-acre facility, and it's all built out of Conex box boxes, but they've designed it in a way that one is set up for vertical ventilation, one's set up for residential, one's set up for a basement fire. They have a bunch of different boxes, and then there's one set up for just forcible entry. They have all the different

specialties in different boxes, and it's set up like a town. I think something like that would be nice that you can use a different box for different applications.

Theme 7: Procuring Resources for Construction and Maintenance

Concerning research question five, participants were asked to identify any challenges or concerns of establishing and maintaining a live-fire training facility. Eighty percent of participants agreed on the challenge of securing funds for both the construction and maintenance of the live-fire training facility. Twenty percent of participants voiced concerns regarding equitable access to the training facility and persuading stakeholders about the necessity of such a facility. Participant 1 stated, “Money is always going to be the factor, but it also requires not just one or two people in the training. It requires a staff of training officers. You can't just have one or two people running the show up there. You want it to be uniform. I think you need a larger training staff to run a facility of this nature so that it is more uniform across the board.” Participant 12 added, “The biggest challenge is the land purchase, you need money to buy land.” Participant 3 stated, “Money would be the biggest challenge. We must budget for what we need and keep building upon what we have to keep growing as a department as technology and the fire service continues to change.” Participant 9 remarked, “It comes down to money, finding land that is reasonably priced, and getting funds approved to move forward with the construction of the site.” Participant 5 stated, “Only as it pertains to establishing a system for company use to where everybody feels like they're getting fair treatment and accessibility.” Participant 14 added, “Well, convincing city administration and city council this is a need. There are competing needs with a city this size, but we must help the public and elected officials understand that we need this.”

Summary

This qualitative study explored the necessity of specialized training facilities within the WSFD, focusing on the potential impact of establishing a live-fire training facility within the city limits. Interviews with WSFD personnel representing varying ranks and roles revealed unanimous support for such a facility, citing its potential to enhance professional capabilities, accessibility to training, innovation, and continuous improvement efforts. Participants expressed concerns about the inadequacy of current facilities in meeting physical fitness needs and preparing individuals for required tests. A preference for a multi-functional facility design emerged, along with challenges related to securing funds and ensuring equitable access. These findings underscore the importance of addressing logistical challenges and securing resources to meet the evolving needs of the WSFD and its community.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Summary of Results

The qualitative study conducted within the WSFD aimed to assess the necessity and potential impact of establishing a live-fire training facility within the city limits. The interview questions were developed based on the five research questions. Several key themes emerged through the literature review and in-depth interviews with 15 WSFD personnel.

First, participants unanimously supported establishing a live-fire training facility, citing its potential to enhance professional capabilities, accessibility to training, and organizational innovation. Second, participants highlighted significant challenges associated with the inadequacy of current training facilities in meeting physical fitness needs and preparing individuals for required tests, such as the Job-Related Physical Abilities Test (JPAT).

Third, participants preferred a multi-functional facility design, emphasizing the importance of incorporating modern technology and equipment to enhance training effectiveness and simulate real-world scenarios. Lastly, participants identified challenges related to securing funds and ensuring equitable access to the training facility, underscoring the need for ongoing collaboration and advocacy efforts to garner support and resources for the project.

Overall, the research findings provided valuable insights into the potential benefits and challenges associated with establishing a live-fire training facility within the WSFD and similar organizations. The research findings highlighted the importance of addressing logistical challenges and securing resources to meet the evolving needs of fire department personnel and the communities they serve.

Conclusions Based on the Results

The synthesis of the literature review with the study's findings underscores the critical importance of addressing training facility needs within fire departments like the WSFD. Existing literature consistently highlights the significance of adequate training facilities in enhancing personnel skills, organizational innovation, and overall emergency response capabilities. Studies emphasize the role of modern, multi-functional facilities in simulating real-world scenarios, facilitating continuous improvement, and ensuring personnel readiness for diverse challenges. This aligns closely with the findings of the qualitative inquiry conducted within the WSFD, which revealed unanimous support for establishing a live-fire training facility. Participants articulated the potential benefits of such a facility in enhancing professional capabilities, accessibility to training, and organizational innovation. However, participants also highlighted significant challenges posed by inadequate current facilities in meeting physical fitness needs and preparing individuals for required tests.

Participants' preference for a multi-functional facility design emphasizes the incorporating modern technology and equipment to maximize training effectiveness and simulate real-world scenarios. Challenges related to securing funds and ensuring equitable access to the training facility underscore the need for ongoing collaboration and advocacy efforts to address logistical barriers and secure necessary resources. These findings highlight the urgent need for investment in upgraded facilities that adequately support personnel development and meet organizational standards. This is supported by Evans (2013), who suggests that an investment in training will positively impact the economic resilience and prosperity of communities. By integrating insights from the literature with empirical evidence from the study, fire departments similar to the WSFD can better prioritize resources and initiatives to optimize training infrastructure, ultimately enhancing emergency response effectiveness and public safety within their communities.

Limitations

While this qualitative research study provides valuable insights into the necessity of specialized training facilities within the city limits of Winston-Salem, several limitations should be acknowledged. Firstly, I recognized the potential impact of my organizational position on bias. My affiliation with the WSFD might have fostered preconceived notions or assumptions regarding training facilities and organizational procedures, potentially resulting in confirmation bias. This bias could have influenced the selection of interview questions, data interpretation, and findings presentation, possibly favoring perspectives aligned with the department's objectives. Furthermore, participants may have perceived my affiliation with the WSFD differently, potentially influencing their willingness to provide candid responses or express dissenting opinions.

Secondly, the study's sample size, consisting of 15 participants, may limit the generalizability of the findings to a broader population of WSFD personnel. Additionally, the recruitment process may have introduced selection bias, potentially excluding perspectives from other key organizational stakeholders. Furthermore, relying on self-reported data obtained through in-person interviews may introduce response bias, as participants may have been influenced by social desirability or may not have accurately represented their true beliefs and experiences. Moreover, the study's focus on personnel within a single fire department may limit the applicability of the findings to other fire departments with different organizational structures, training protocols, and community contexts. Finally, while efforts were made to ensure diversity among participants in terms of rank and assignment, the study did not explore potential differences in perspectives based on demographic factors such as age, gender, or years of service, which may have influenced participants' views on the establishment of a live-fire training facility.

Despite these limitations, this study findings provide valuable insights into the perceptions and needs of WSFD personnel regarding training facilities. They lay the groundwork for future research efforts to further explore these issues further and inform evidence-based decision-making within the organization.

Implications and Recommendations

The findings of this qualitative research study have several important implications for both practice and policy within the WSFD and similar organizations. First, the unanimous support among participants for establishing a live-fire training facility underscores the urgent need for investment in resources to enhance professional capabilities, accessibility to training, and organizational innovation within the WSFD. Therefore, policymakers and city

administrators should prioritize allocating funds and resources toward constructing and maintaining such a facility, considering the diverse training needs and preferences expressed by participants. Additionally, efforts should be made to ensure equitable access to the training facility for all WSFD personnel, regardless of rank or location, to maximize its effectiveness in supporting continuous improvement efforts and meeting the community's evolving needs. Furthermore, the preference for a multi-functional facility design suggests incorporating modern technology and equipment into the facility's infrastructure to enhance training effectiveness and simulate real-world scenarios. Finally, ongoing collaboration and advocacy efforts between WSFD leadership, city officials, and community stakeholders will be crucial in garnering support and resources for the establishment and long-term sustainability of the training facility. By addressing these implications and implementing the recommended strategies, the WSFD can enhance its ability to fulfill the training requirements of its personnel, boost organizational effectiveness, and eventually improve public safety and emergency response endeavors within the community.

Recommendations for Future Research

For future research, several avenues warrant exploration to enhance further our understanding of the impact and effectiveness of live-fire training facilities within fire departments. Firstly, conducting longitudinal studies that track the implementation and outcomes of live-fire training facilities over an extended period can provide valuable insights into their long-term effectiveness and sustainability. Such studies could assess changes in personnel skill development, organizational performance, and community outcomes over time, allowing for a comprehensive evaluation of the facility's impact. Additionally, comparative studies that examine the effectiveness of diverse types of training facilities, such as traditional

brick-and-mortar structures versus modular Conex designs, help identify the most efficient and cost-effective approaches to facility construction and design. Furthermore, research focusing on integrating technology, such as virtual reality simulations and advanced monitoring systems, into live-fire training facilities could shed light on their potential to enhance training effectiveness and simulate real-world scenarios. Lastly, qualitative studies that explore the perspectives and experiences of stakeholders beyond fire department personnel, such as city officials, community leaders, and residents, can provide a more comprehensive understanding of the broader impacts and implications of live-fire training facilities on communities and emergency response systems. Future studies can contribute valuable insights to inform policy and practice in fire department training and emergency response by addressing these research gaps and exploring these avenues.

Conclusion

In conclusion, this qualitative research project within the WSFD generated responses corresponding to the research questions. Additionally, the research revealed critical insights into the necessity and potential impact of establishing a live-fire training facility within the city limits. The unanimous support among participants for such a facility underscores its potential to significantly enhance professional capabilities, training accessibility, and organizational innovation within the WSFD.

Identifying challenges related to the inadequacy of current training facilities highlights the urgent need for upgraded facilities to support personnel development and meet organizational standards adequately. The preference for a multi-functional facility design further emphasizes the importance of incorporating modern technology and equipment to maximize training effectiveness. However, challenges related to securing funds and ensuring equitable access underscore the need for ongoing collaboration and advocacy efforts.

Overall, these findings accentuate the importance of prioritizing investment in training infrastructure to support fire department personnel's continuous improvement and effectiveness, ultimately enhancing public safety and emergency response efforts within the community. It is recommended that policymakers and city administrators prioritize allocating funds toward constructing and maintaining such facilities, ensuring equitable access for all personnel. Furthermore, future research endeavors should focus on longitudinal studies, comparative analyses of facility types, and technology integration to further enhance our understanding and inform evidence-based decision-making in this critical area of emergency response.

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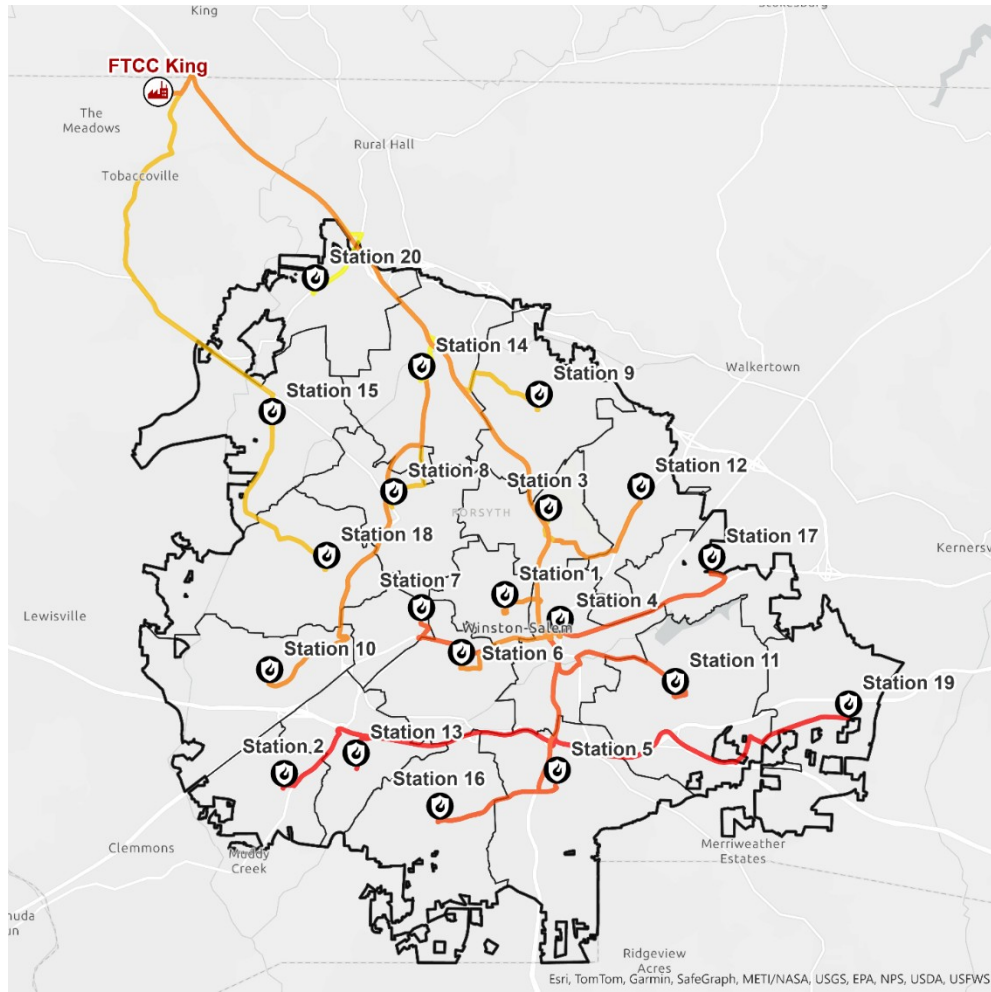
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Appendix A

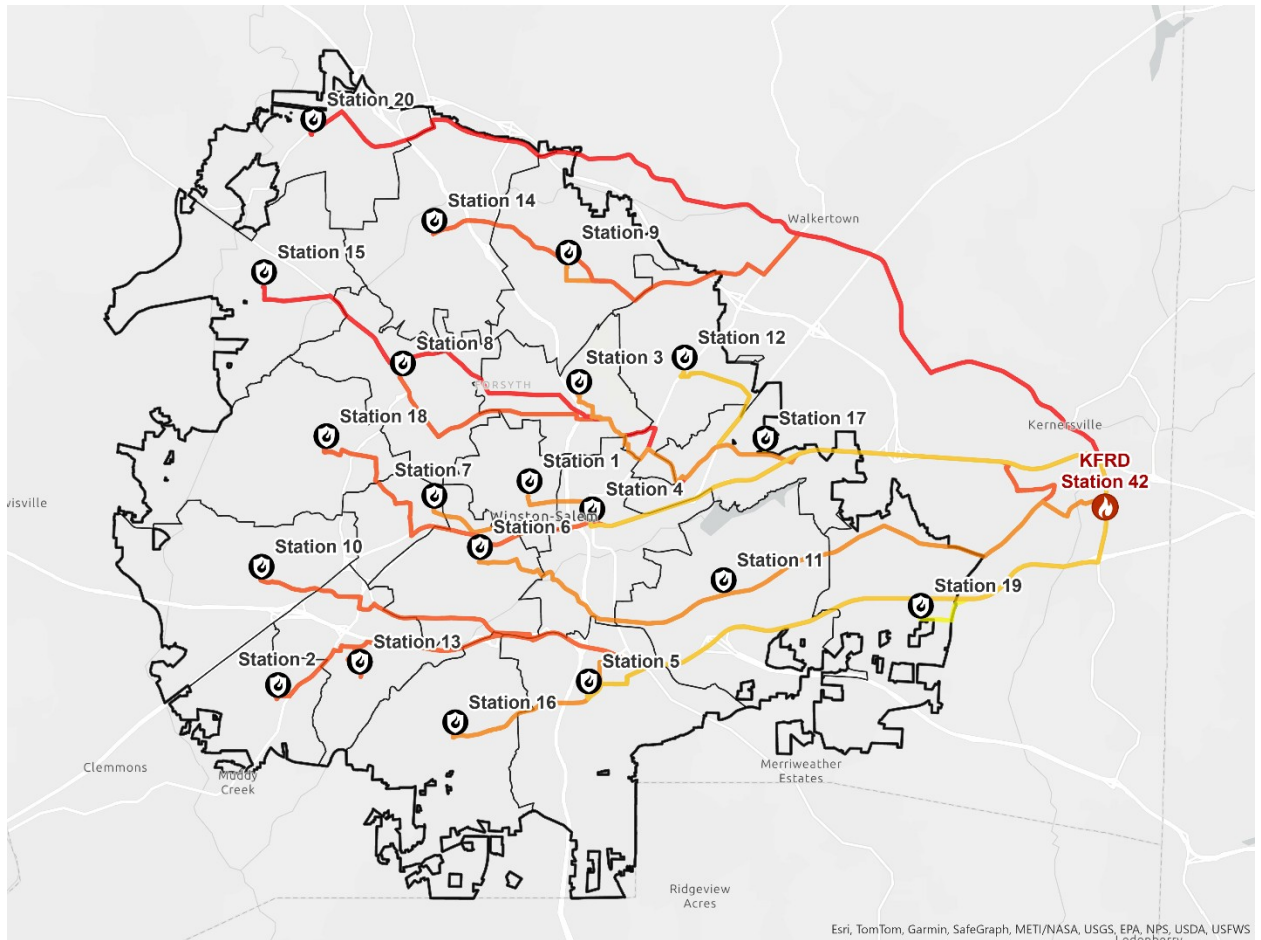
WSFD fire station locations in relation to FTCC King training facility.



Fire Station: Station	Fire Station: ADDRESS	Fire Station: Longitude	Fire Station: Latitude	Driving Distance (Miles)	Driving Time (Minutes)
2 WS	405 SOMERSET DR	-80.33020057	36.04861492	24.4	28.0
19 WS	4430 GLENN HI RD	-80.12169896	36.06944757	24.7	27.9
13 WS	2110 BETHEL METHODIST CHURCH LN	-80.30362132	36.05476349	23.1	26.7
16 WS	1701 POPE RD	-80.27270543	36.03889154	21.2	26.1
10 WS	4700 COUNTRY CLUB RD	-80.33554033	36.07965222	17.6	24.6
11 WS	2745 WAUGHTOWN ST	-80.18570623	36.07615896	19.8	23.8
7 WS	100 ARBOR RD	-80.27950927	36.09816942	19.0	22.4
17 WS	4295 OLD GREENSBORO RD	-80.17214208	36.11327907	19.7	22.2
5 WS	771 PALMER LN	-80.22938252	36.04967053	19.3	21.5
6 WS	1717 W ACADEMY ST	-80.26471368	36.08483682	17.9	21.0
18 WS	1505 N PEACE HAVEN RD	-80.31449652	36.11378596	13.5	20.8
12 WS	3620 NEW WALKERTOWN RD	-80.19836693	36.1344046	16.1	19.7
1 WS	651 N MARSHALL ST	-80.24864118	36.1020719	15.9	19.1
4 WS	290 S MARTIN L KING JR DR	-80.22822788	36.09472395	16.1	18.3
8 WS	2457 REYNOLDA RD	-80.28970124	36.13285252	12.7	17.5
3 WS	2995 N LIBERTY ST	-80.23254415	36.12803438	13.9	15.7
9 WS	4685 OGBURN AV	-80.23600919	36.16189214	11.8	14.9
15 WS	4548 SHATTALON DR	-80.33470553	36.15671703	9.4	14.0
14 WS	5754 SHATTALON DR	-80.27945496	36.17022332	9.4	11.6
20 WS	5991 KOGER LN	-80.31871234	36.19661003	7.5	10.6

Appendix B

WSFD fire station locations in relation to Kernersville Fire Department training facility.

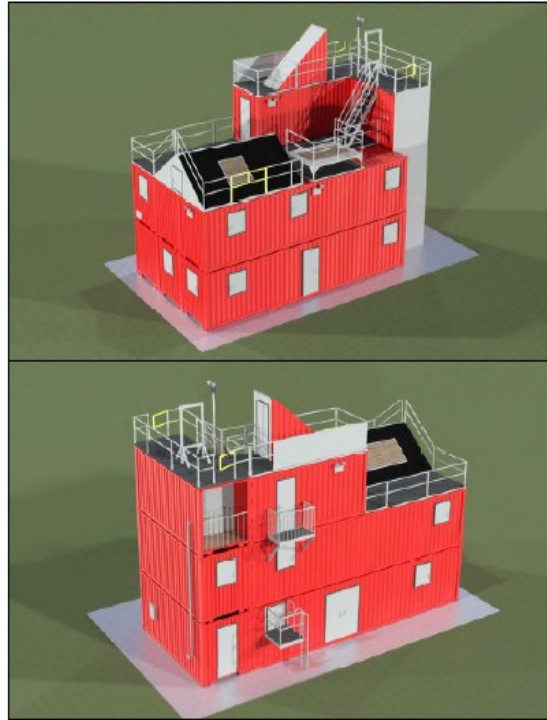


Fire Station: Station	Fire Station: ADDRESS	Fire Station: Longitude	Fire Station: Latitude	Driving Distance (Miles)	Driving Time (Minutes)
15 WS	4548 SHATTALON DR	-80.33470553	36.15671703	19.6	35.8
8 WS	2457 REYNOLDA RD	-80.28970124	36.13285252	16.6	30.4
20 WS	5991 KOGER LN	-80.31871234	36.19661003	18.9	29.8
14 WS	5754 SHATTALON DR	-80.27945496	36.17022332	16.4	28.6
18 WS	1505 N PEACE HAVEN RD	-80.31449652	36.11378596	17.5	27.4
3 WS	2995 N LIBERTY ST	-80.23254415	36.12803438	12.8	26.1
6 WS	1717 W ACADEMY ST	-80.26471368	36.08483682	13.3	25.5
9 WS	4685 OGBURN AV	-80.23600919	36.16189214	13.8	24.2
10 WS	4700 COUNTRY CLUB RD	-80.33554033	36.07965222	17.5	24.1
7 WS	100 ARBOR RD	-80.27950927	36.09816942	14.2	23.5
1 WS	651 N MARSHALL ST	-80.24864118	36.1020719	12.7	21.6
12 WS	3620 NEW WALKERTOWN RD	-80.19836693	36.1344046	11.3	20.2
2 WS	405 SOMERSET DR	-80.33020057	36.04861492	17.2	20.0
16 WS	1701 POPE RD	-80.27270543	36.03889154	14.2	19.1
5 WS	771 PALMER LN	-80.22938252	36.04967053	11.4	18.4
13 WS	2110 BETHEL METHODIST CHURCH LN	-80.30362132	36.05476349	16.0	18.0
11 WS	2745 WAUGHTOWN ST	-80.18570623	36.07615896	8.2	14.3
4 WS	290 S MARTIN L KING JR DR	-80.22822788	36.09472395	10.6	12.8
17 WS	4295 OLD GREENSBORO RD	-80.17214208	36.11327907	7.2	9.5
19 WS	4430 GLENN HI RD	-80.12169896	36.06944757	4.7	6.4

Appendix C

Training Unit Concept

**PROPOSAL FOR TRAINING UNIT (BURN UNIT)
KERNERSVILLE F.R.D. - KERNERSVILLE, NC**



CONCEPTUAL VIEWS

UNIT SPECIFICATIONS

- 6 - 40 CONTAINERS
- 5 - 20 CONTAINERS
- 1 - 238 SQ.FT. BURN ROOM
- 1 - 60 SQ.FT. BURN ROOM
- 3 - (2) ZONE RTD UNITS
- 1 - RECESSED BALCONY
- 1 - OUTER BALCONY
- 1 - ROOF PITCH SIM
- 1 - HI-WALL PANEL GAZE
- 2 - BREACH WALLS
- 1 - LIVING ROOM PROP
- 1 - BATHROOM PROP
- 1 - DINING ROOM PROP
- 1 - KITCHEN PROP
- 1 - (3) LEVEL RAPPET TOWER
- 1 - OUTER STAIRCASE
- 2 - INNER STAIRCASES
- 1 - BASEMENT WINDOW PROP
- 1 - DRYWALL POKE-OUT
- 1 - FORCED ENTRY DOOR
- 1 - (4) DOOR F.E. DOOR
- 2 - BURN DOORS
- 2 - BURN WINDOWS
- 8 - STD DOORS
- 8 - STD WINDOWS
- 1 - VERT. BREACH WINDOW
- 1 - HORIZ. BREACH WINDOW
- 1 - DENVER DRILL WINDOW
- 5 - 36X80 WALK THRU'S
- 1 - STANDPIPE

TRAINING AREA=4100 SQ.FT.

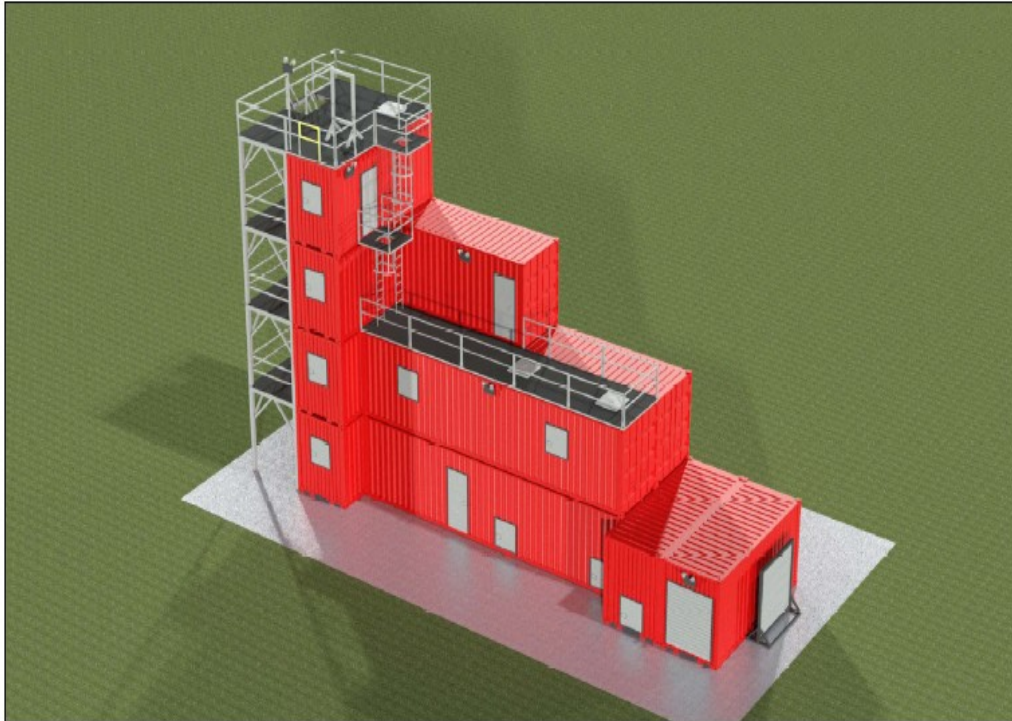


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Appendix D

Training Unit Example

**PROPOSAL FOR TRAINING UNIT (RESCUE TRAINER)
KERNERSVILLE F.R.D. - KERNERSVILLE, NC**



UNIT SPECIFICATIONS

- 4 - 40' CONTAINERS
- 7 - 20' CONTAINERS
- 1 - (4) LEVEL EXT. STAIRS
- 1 - (4) LEVEL TOWER
- 3 - 40' SCBA MAZES
- 2 - INT. STAIR CASES
- 2 - BREACH WALLS
- 1 - 2-TIER MAZE
- 2 - WALK THROUGHS
- 2 - F.E. DOORS
- 10 - 36X80 DOORS
- 10 - 36X36 WINDOWS
- 2 - CAGED OSHA LADDERS
- 2 - LANDINGS
- 1 - RAPPEL ANCHOR
- 1 - 14' GARAGE DOOR
- 1 - OVERHEAD DOOR CUT PROP

TRAINING AREA
TOTAL = 2240 SQ.FT.



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Appendix E

Interview Consent Form

Interview Consent Form

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Kevin T. McLaurin from the National Fire Academy (NFA) and Columbia Southern University. The purpose of this study is to develop a better understanding of a critical issue in the fire and emergency services. This study will contribute to the researcher's completion of their final project for the Executive Fire Officer program.

Research Procedures

Should you decide to participate in this research study, you will be asked to sign this consent form once all of your questions about the study have been answered to your satisfaction. The study consists of an interview that will be administered to individual participants. You will be asked to provide answers to a series of questions related to your experience within a particular community. **An audio recording of the interview will be taken for transcription purposes. The audio file will be deleted at the conclusion of the study and will not be shared with anyone other than the researcher.** You may turn off your camera if you do not wish to be filmed.

Time Required

Participation in this study will require approximately 30 minutes of your time.

Risks

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).

The NFA, Columbia Southern University, and its contractors take no responsibility for the actions or outcomes of the research study.

Benefits

There are no direct benefits to the participant; however, information from this study may benefit you, and other communities, in the future.

Incentives

There are no incentives (financial or otherwise) associated with participation in this study.

Confidentiality

The results of this research will be presented to NFA and Columbia Southern University program faculty and students. The results of this project will be coded in such a way that the respondent's identity will not be attached to the final form of this study. The researcher retains the right to use and publish non-identifiable data. While individual responses are confidential, aggregate data will be presented representing averages or generalizations about the responses as a whole. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers (including audio recordings) will be destroyed. Final aggregate results will be made available to participants upon request.

Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind.

Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion, or you would like to receive a copy of the final aggregate results of this study, please contact:

Kevin T. McLaurin
Student
National Fire Academy
Kevinm@cityofws.org

Dr. Justin Heim
Course Manager
Columbia Southern University
Justin.Heim@columbiasouthern.edu

Giving of Consent

I have read this consent form, and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have received satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18-years of age.

- I give consent to be filmed and audio recorded during my interview. _____ (interviewee initials)
- I give consent to be audio recorded during my interview. _____ (interviewee initials)

Interviewer Signature		Date :	
------------------------------	--	------------------	--

Interviewee Signature		Date:	
Interviewee Signature		Date:	

Appendix F

Semi-Structured Interview Guide/Survey Questions

Thank you for dedicating your time to participate in this survey. Your insights are invaluable for comprehending the viewpoints and sentiments of Winston-Salem Fire Department (WSFD) personnel regarding the potential establishment of a live-fire training facility in our community. Before proceeding with the study, kindly review and sign the attached Consent Form. Please respond to the following questions candidly and to the best of your knowledge. Be assured that your responses will be treated with confidentiality, and your identity will be kept anonymous.

This interview is part of a Capstone research project, a requirement of the National Fire Academy's Executive Fire Officer Program. The primary objective of this interview is to collect data from members of the Winston-Salem Fire Department (WSFD) concerning their experiences and opinions on how the introduction of a live-fire training facility within the city limits of Winston-Salem might influence their knowledge, skills, and abilities related to the fire service. Additionally, the research seeks to understand the potential impact such a facility could have on the community. If you have any questions, concerns, or reservations regarding this interview, please contact the Researcher, Kevin T. McLaurin, at (910)237-3619 or by email at kevinm@cityofws.org.

Interview Questions

1. What is your current rank and assignment within the Winston-Salem Fire Department (WSFD)?
2. How many years of service have you completed with WSFD?
3. How do you believe your current skillsets and training contribute to your role within WSFD?
4. In your opinion, how might the presence of a live-fire training facility in your jurisdiction impact your professional capabilities?
5. To what extent do you think a live-fire training facility would enhance WSFD's ability to innovate and improve its continuous improvement model?
6. Can you provide specific examples or scenarios where you believe such a facility could positively influence organizational innovation?
7. How do you perceive the impact of the current facilities on sustaining physical fitness among WSFD personnel?
8. In your experience, how well do the existing facilities located within the city limits of Winston-Salem prepare individuals for the Job-Related Physical Abilities Test (JPAT)?
9. What specific features or attributes do you believe a live-fire training facility should have to meet the training requirements of WSFD effectively?
10. Are there any industry best practices in training facility design and operation that you think would be particularly relevant for WSFD?
11. How do you envision the establishment of a live-fire training facility contributing to WSFD's ability to meet diverse community demands for service?

12. How do you envision the establishment of a live-fire training having a negative impact on the organization and WSFD's ability to meet diverse community demands for service?
13. In your opinion, how might such a facility assist WSFD in addressing changes and innovations within the department?
14. Are there any challenges or concerns you foresee in the process of establishing and maintaining a live-fire training facility? If so, please specify.

I appreciate your willingness to take part in this interview. Your insights will contribute to my Capstone research project, and rest assured, your identity will remain confidential. The survey results will only include general information such as rank, shift, and years of service, without revealing any personal or identifiable details. As the researcher, I am committed to ensuring the privacy and confidentiality of the survey. Thank you for your participation.

Appendix G
Participant Breakdown

	Years of Service	Division
Participant 1	27	Suppression
Participant 2	17	Suppression
Participant 3	10	Suppression
Participant 4	3	Suppression
Participant 5	3	Suppression
Participant 6	1	Suppression
Participant 7	7	Suppression
Participant 8	23	Suppression
Participant 9	16	Suppression
Participant 10	11	Suppression
Participant 11	24	Suppression
Participant 12	16	Suppression
Participant 13	18	Fire Administration
Participant 14	25	Fire Administration
Participant 15	28	Fire Administration