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THESIS

**DEFINING THE ROLE AND RESPONSIBILITY OF THE
FIRE SERVICE WITHIN HOMELAND SECURITY**

by

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March 2010

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**DEFINING THE ROLE AND RESPONSIBILITY OF THE FIRE SERVICE
WITHIN HOMELAND SECURITY**

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Submitted in partial fulfillment of the
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ABSTRACT

Many fire service providers (FSPs) do not adequately address homeland security. While some FSPs in the United States have dedicated homeland security divisions or operational practices, the majority do not. The current roles and responsibilities of most FSPs appear to be broad and vague, as there are no overall adopted best practices for developing homeland security response procedures and/or practices. While the majority of FSPs deliver fire suppression and emergency medical services, the majority of FSPs have not broadened their service delivery models to address the preventative, emergent and recovery phases of service delivery within homeland security. While there are no widely accepted practices, regulations or standards addressing FSPs and their expectations within homeland security, it is possible to create a structure upon which FSPs may build. This document will demonstrate the importance of cultural acceptance of homeland security services, which will lead to effective planning and preparedness as well as appropriate resourcing and training practices. From these components FSPs, regardless of their size, jurisdiction served, geographic location, jurisdictional target threat assessments, budgetary resources and staffing matrixes will be able to create a structure that will allow them to provide effective and efficient homeland security services.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	PROBLEM STATEMENT	1
B.	RESEARCH QUESTIONS.....	3
C.	ARGUMENT.....	3
D.	SIGNIFICANCE OF RESEARCH	4
E.	METHOD	4
II.	LITERATURE REVIEW	7
A.	RECOGNIZING HOMELAND SECURITY.....	7
B.	LITERATURE REGARDING THE ROLE OF THE FIRE SERVICE IN HOMELAND SECURITY	8
C.	PLANNING/PREPAREDNESS/STRATEGY	8
D.	MANAGEMENT/LEADERSHIP	14
E.	CONCLUSION	15
III.	BACKGROUND	17
IV.	CASE STUDY OF THE FIRE DEPARTMENT OF NEW YORK	19
A.	MEDICAL EMERGENCIES—ACCIDENTAL, NATURAL DISASTERS OR TERRORIST ACTS	24
B.	TERRORIST ACTS—CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, INCENDIARY AND EXPLOSIVE.....	24
C.	FIRE INVESTIGATION—ARSON, CAUSE/ORIGIN, INTELLIGENCE, LAW ENFORCEMENT AND SITE SECURITY	24
D.	HAZARDOUS MATERIALS—INCIDENT RESPONSE AND PLANNING	25
E.	SPECIAL EVENT AND DIGNITARY PROTECTION—PLANNING AND RESPONSE.....	25
F.	ORGANIZATIONAL ADAPTABILITY	28
1.	Response Capability.....	30
2.	Prevention and Protection.....	32
3.	Coordination and Collaboration	33
V.	CASE STUDY OF THE LONDON FIRE BRIGADE	39
VI.	ANALYSIS	47
A.	DOCTRINE/ORGANIZATIONAL CULTURE.....	47
B.	PLANNING AND PREPAREDNESS.....	51
C.	RESOURCING AND TRAINING	53
D.	MEGACOMMUNITY APPROACH.....	54
E.	BLUE OCEAN STRATEGY	57
VII.	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	63
A.	SUMMARY AND RECOMMENDATIONS.....	63
B.	RESEARCH FINDINGS.....	63

C.	RECOMMENDATIONS.....	64
1.	Entity Specific.....	64
2.	Internal Culture	64
3.	Planning and Preparedness.....	65
4.	Resourcing	65
5.	Holistic Approach	65
D.	CONCLUSION	66
APPENDIX. DEFINITIONS		69
LIST OF REFERENCES.....		71
INITIAL DISTRIBUTION LIST		75

LIST OF FIGURES

Figure 1.	FDNY Organization Chart (From Office of Public Information, 2009, p. 22)	21
Figure 2.	London Fire Brigade Organizational Chart (From London Fire Brigade, 2008)	40
Figure 3.	Stages of a Major Incident (From London Emergency Services Liaison Panel, 2007, p. 8)	50
Figure 4.	Megacommunity Model for FSPs	56
Figure 5.	A Holistic Approach to Homeland Security	60

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LIST OF ACRONYMS AND ABBREVIATIONS

9/11	September 11, 2001 Terrorist Attacks
AAR	After Action Report
AFS	American Fire Service
ATWG	Anti-Terrorism Work Group
BFI	Bureau of Fire Investigations
BHS	Bureau of Health Services
BTP	British Transport Police
CBP	Capabilities Based Planning
CBRN	Chemical, Biological, Radiological and Nuclear
CERT	Community Emergency Response Team
COLP	City of London Police
COOP	Continuity of Operations Plan
CPR	Cardiopulmonary Resuscitation
DHS	Department of Homeland Security
EDT	Exercise Design Team
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ERP	Emergency Response Plan
FDNY	Fire Department of New York
FEMA	Federal Emergency Management Agency
FOMI	Fire Department Officers Management Institute
FSP	Fire Service Provider
GLA	Greater London Authority
HS	Homeland Security
HSS	Homeland Security Services
HVAC	Heating, Ventilation, Air Conditioning
IAP	Incident Action Plan
IMT	Incident Management Team
ICS	Incident Command System
JTTF	Joint Terrorism Task Force

LAS	London Ambulance Service
LESLP	London Emergency Services Liaison Panel
LFB	London Fire Brigade
LFEPa	London Fire and Emergency Planning Authority
LRP	London Regional Partnership
LRRF	London Regional Resilience Forum
MIPM	Major Incident Procedure Manual
MN-TF1	Minnesota Task Force 1
MPS	Metropolitan Police Service
MCA	Marine Coast Coastguard Authority
MCI	Mass Casualty Incident
MW	Megawatt
NFA	National Fire Academy
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NPS	Naval Postgraduate School
NRF	National Response Framework
OSHA	Occupational Safety and Health Administration
POETEP	Planning, Organization, Equipment, Training, Exercises, Personnel
PLA	Port of London Authority
RAF	Royal Air Force
RATH	Risk Assessment and Target Hazard Unit
RRF	Regional Resilience Forum
SOP	Standard Operating Procedures
UASI	Urban Area Security Initiative
UK	United Kingdom
USAR	Urban Search and Rescue
USFA	United States Fire Administration
USMA	United States Military Academy

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I. INTRODUCTION

A. PROBLEM STATEMENT

The 9/11 attacks sounded an alarm in fire departments across the country; suddenly, they would need to decide whether or not they had a role to play in preparing for and preventing terrorist attacks (Gartenstein-Ross & Dabruzzo, 2008, p. 1). Many fire service providers (FSPs) do not adequately address homeland security. While there are some FSPs in the United States who have dedicated homeland security divisions or operational practices, the majority do not.

The current roles and responsibilities of most FSPs concerning homeland security appear to be broad and vague as there are no overall adopted best practices for developing homeland security response procedures and/or practices. While the majority of FSPs deliver fire suppression and emergency medical services as well as prevention, inspection and educational services, this author has discovered during the research that the majority of FSPs have not broadened their service delivery models by addressing the preventative, emergent, and recovery phases of service delivery within homeland security. Unlike larger FSPs, such as London and New York City, who have the appropriate and necessary resources to address the homeland security discipline, and who directly address homeland security, many FSPs need to rely on many different community and regional partners in order to engage in homeland security-related efforts. These partners include local law enforcement, state/regional response teams, National Guard Units, United States Coast Guard, Federal Emergency Management Agency (FEMA) and private sector partners such as hospitals and private industry.

Two events that demonstrate the need for FSPs to address homeland security are the responses to Hurricane Katrina and the Interstate 35W (I-35W) Bridge Collapse. The varying levels of response to Hurricane Katrina demonstrated lapses for not only local and regional responders but also for state and federal responders. The collapse of the I-35W Bridge demonstrated a lack of common response practices on the local and regional level. Many local and regional fire and emergency services self-dispatched to the scene.

There was an under-utilization of local and regional resources, such as a large portion of Minnesota Task Force 1 (MN-TF1),¹ was not dispatched in a timely manner.

The absence of a homeland security strategy for FSPs is underscored by the fact that the primary national organizations for setting fire and emergency medical services (EMS) standards, the National Fire Protection Association (NFPA), the Occupational Safety and Health Administration (OSHA), the United States Fire Administration (USFA), and the National Institute for Occupational Safety and Health (NIOSH) do not describe or define the role and/or responsibility of the fire service in the context of homeland security.

Vincent J. Doherty, fire captain of the FDNY wrote in June of 2004:

The fire service is at an important crossroads in its history. The increasing threat of terrorism, along with the need for the fire service to make a major contribution to the homeland security effort compels firefighters to expand upon their traditional mission requirements. They must deepen and widen the skills they possess for responding to all-hazard incidents, so that they can be ready to apply those skills to the terroristic events and weapons of mass destruction incidents that are inevitable during this war on terrorism. (2004, p. 1)

It should also be noted that natural disasters and everyday operations of any given FSP should be added to Mr. Doherty's recommendations.

¹ Minnesota Task Force 1 (MN-TF1) is an urban search and rescue (USAR) team based in the Twin Cities area of Minnesota. MN-TF1 is a state of Minnesota resource developed to assist with emergencies involving natural or manmade disasters that require highly skilled search and rescue personnel in a collapse or specialized rescue environment. Although MN-TF1 is a state resource, the team works for and in support of local response agencies. MN-TF1 is made up of highly trained firefighters, police officers, and paramedics who perform in a wide variety of disciplines. These disciplines include: search specialists, heavy rescue specialists, haz-mat specialists, medical specialists, heavy riggers and structural engineers. MN-TF1 draws these specialists from several public safety organizations including: Minneapolis Fire Department, Dakota County Special Operations Team, Edina Fire Department, Rochester Fire Department and the St. Paul Fire Department (Minnesota Task Force 1, 2009).

Unofficially, the team is referred to as The Task Force or Minnesota Task Force 1. The unit's chief responsibility is responding to structural collapses or other specialized rescue scenarios including high angle, low angle, confined space and trench rescue. There have been very few actual structural collapses locally. Portions of the team have been utilized for trench rescues and other specialized rescue scenarios more frequently especially in areas where specialized rescue resources are limited. On a day-to-day basis, the team seems to serve more as a technical rescue resource rather than a structural collapse response resource due to the actual needs in the geographic location (A. Gabriele [Fire Captain of the St. Paul Fire Department and a Team Leader for MN TF1], personal communication, February 2, 2010).

B. RESEARCH QUESTIONS

- What will a homeland security strategy/model for the fire service consist of at the national, regional and local levels?
- Which homeland security policies should the fire service develop?

C. ARGUMENT

This thesis will argue the importance for FSPs to identify homeland security threats in a jurisdictional capacity as well as their capacity to address each in a potential incident response capability. By doing so, FSPs will begin to define their roles and responsibilities within homeland security. It is thus hoped that identification of partners and additional resources may initiate the building of a basis of homeland security within their specific jurisdiction as well as externally beyond their borders.

While response to homeland security events, such as terrorist attacks and natural disasters, have become expectations of the public and are now moving toward the forefront of FSP's priorities of addressing these responses as new traditional expectations of the fire service, a comprehensive, all-encompassing response model is highly unrealistic. This is because each FSP exists only within the expectation of the jurisdiction they serve and the identified and perceived threats that are present. These threats may include wild fires, high-rise occupancies, industry, flooding and high value targets such as government, religious and iconic targets. In fact, defining the role and responsibility of FSPs may be as simple as defining jurisdictional concerns for each provider and expanding the scope of that model to address and accommodate other jurisdictions, which certainly include threat specific training, preplanning, infrastructure and staffing.

FSPs can define their role and responsibility within homeland security in the same manner as they define their role and responsibility providing everyday service to their specific jurisdictions. Among those roles and responsibilities, the varying degrees of staffing levels and status, equipment and financial resources would be critical factors. A large urban fire department will most likely have sufficient staffing; equipment, and

financial resources based on larger perceived risks whereas smaller suburban and rural FSPs will most likely have insufficient staffing, equipment and financial resources, based on smaller tax bases and perceived risks.

With these issues in mind, it is necessary for each FSP to analyze potential risks within its jurisdiction and assess the resources available to it internally and externally. Once the internal determination is complete, each FSP must evaluate resource availability from outside its specific jurisdiction and how to secure those resources and determine if its capabilities are sufficient in the event they are needed and how to obtain them through appropriate channels. This concept is the same for each FSP regardless of size, jurisdiction and location.

D. SIGNIFICANCE OF RESEARCH

The consumers of this research and document will be the various FSPs throughout the country and possibly beyond. Additionally, policy makers and their constituents will be able to utilize this document as a beginning or template in deciding the roles and responsibilities their FSPs will have and be expected to address in the evolution of their specific service provider.

This thesis will add to the basis of the homeland security knowledge as it relates to the fire service regardless of location, size, structure and resources available to identify and develop specific roles and responsibilities within the homeland security discipline. Case studies and policy analysis from various FSPs, their approaches related to a variety of different circumstances will bring to light the good and not so good which will allow for the initial block-laying process of defining the roles and responsibilities of FSPs.

E. METHOD

This thesis will utilize case studies in order to accumulate best practices of those entities and apply them in an attempt to define the roles and responsibilities of FSPs participating in multi-jurisdictional planning, preparation, exercising, response and recovery within homeland security. With this information, it is intended to develop a template or model of roles and responsibilities for FSPs to address and adopt within their

respective entities while sharing and collaborating with other service providers and private partners in achieving homeland security. It is hoped this method will allow FSPs to examine and address costs, resource allocation, collaboration, communication, planning, preparedness, exercises, response and recovery components internally within their entities and externally with other entities and various partners.

The Fire Department of New York (FDNY) and the London Fire Brigade (LFB) were chosen as case studies for this thesis because of their reputations within the fire service as progressive, industry leaders. The FDNY and LFB have extensive histories of dealing with homeland security issues and attacks. LFB has extensive experience from events such as the continual bombings of World War II and their dealings and struggles with the Irish Republican Army. FDNY has extensive experience from such events as the 1993 World Trade Center Attacks, the attacks of 9/11 and the 2003 electrical black out which crippled not only New York City but also, large portions of the Midwest and Northeast United States and Ontario, Canada, experienced an electric power blackout. The outage affected an area with an estimated 50 million people and 61,800 megawatts (MW) of electric load in the states of Ohio, Michigan, Pennsylvania, New York, Vermont, Massachusetts, Connecticut, New Jersey and the Canadian province of Ontario (U.S.-Canada Power System Outage Task Force, 2004, p. 1). Collectively, each of these entities demonstrates recognition of homeland security through their policies, procedures and values.

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II. LITERATURE REVIEW

The literature regarding the need of FSPs to define their roles and responsibilities within homeland security is very limited. The literature review for this thesis topic will be derived from a variety of different sources and formats. The majority of the literature discovered as it relates to FSPs within the discipline of homeland security was found in the following formats: academic literature, analytical monographs, books, federal government guidelines, industry standards, journals, newspapers, research issue papers and theses. For the purposes of this literature review, these documents addressed various disciplines which are categorized in the following headings: Recognizing Homeland Security, Literature on the Role of the Fire Service in Homeland Security, Planning/Preparedness/Strategy and Management.

A. RECOGNIZING HOMELAND SECURITY

The 9/11 attacks sounded an alarm in fire departments across the country; suddenly, they would need to decide whether they had a role to play in preparing for, and preventing, terrorist attacks (Gartenstein-Ross & Dabruzzo, 2008, p. 1). Creating and recognizing an all-encompassing definition of homeland security is said to be nearly impossible. Christopher Bellavita identifies seven defensible definitions of homeland security that are based on claims about what homeland security emphasizes or ought to emphasize. The definitions focus on:

- Terrorism
- All hazards
- Terrorism and catastrophe
- Jurisdictional hazards
- Meta hazards
- National security
- Government efforts to curtail civil liberties (Bellavita, 2008, p. 2).

Bellavita also cites the Homeland Security Council's definition of homeland security, which implies that through a national effort of many different entities both

domestically and internationally, will help ensure a secure homeland that would ensure our way of life. While both items address homeland security, Bellavita's assertions imply that it is nearly impossible to create an all-encompassing definition of homeland security for every jurisdiction whether it is local, regional, state, national or tribal. Throughout Bellavita's 2008 article, he revealed political waffling and indecision have played an integral part of the vagueness of the homeland security definition and what is covered under its umbrella of expectations. Not having a clear and detailed definition of homeland security only promotes ineffectiveness and inconsistencies when administering fire service resources during a homeland security event.

B. LITERATURE REGARDING THE ROLE OF THE FIRE SERVICE IN HOMELAND SECURITY

Rosemary Cloud posits that the future role of the fire service in homeland security will demand the need for progressive leadership, effective collaboration, intelligence engagement and the adoption of a shifting mission that supports preparedness, prevention, response and recovery of terrorist attacks (Cloud, 2008, p. i). By recognizing these needs, Cloud indicates a response paradigm is needed to meet the new asymmetrical threats that are emerging within homeland security. This response paradigm should include the ability to adjust service delivery to meet all hazard and homeland security demands (Cloud, 2008, p. i). It is apparent to Cloud that the fire service needs to shift from the traditional role of status quo service delivery and expand its future role in national strategies for homeland security (Cloud, 2008). Throughout her thesis, Cloud points to the formal and informal command structure as well as the various fire service entities' structures and paradigms of the fire service may contribute to the lack of clearly defined expectations of the fire service within homeland security.

C. PLANNING/PREPAREDNESS/STRATEGY

In his 2005 article, Bellavita brings to light the Issue-Attention Cycle. This Issue-Attention Cycle follows a five-stage process: preproblem, alarmed discovery, awareness of the costs of making significant progress, gradual decline of intense public interest and the post-problem stage (Downs, 1998, pp. 1–3). Bellavita is quite accurate in his

observation that the U.S., as a nation, acutely addresses and recognizes vulnerabilities after an attack has occurred. Then, when the attacks become secondary news behind more prominent issues—issues which may directly affect different regions or demographics of our society such as inflation, unstable economy or cost of gasoline—the terrorist threat and vulnerabilities take a back seat and get less attention. Alternately, Bellavita argues a diminished public interest in homeland security is not a problem. For one thing, in the absence of an active national consensus that terrorists are a clear and present threat to the lives of average Americans, the dynamics of the Issue-Attention Cycle are as inevitable as the seasons. Homeland security has matured sufficiently to join the routine of public policy (Bellavita 2005, p. 3).

A diminished public interest in homeland security is not a problem as it relates to terrorism; however, a diminished public interest to homeland security as it relates to jurisdictional security is a problem. To successfully engage in homeland security, the fire service must ensure it does not fall into the fourth stage (gradual decline of intense public interest) of the Issue-Attention Cycle.

Thaddeus K. Jankowski, Sr. (2005) provides some basic fundamental observations that the fire service can utilize when preparing for and responding to emergency situations ranging from the common and predictable everyday structure fire response to the unpredictable and uncommon response to a multi-faceted terrorism event response.

Jankowski (2005) claims the fire service and others in the first responder community will be able to contribute to homeland security missions much more effectively and efficiently by switching to specially adapted versions of capabilities-based planning (CBP) (Jankowski, 2005, p. i). Throughout his thesis, Jankowski indicates the need to realize the shortcomings of the current planning practices utilized by the fire service/first responder community and improve upon the proven aspects of those planning practices and incorporating them in the CBP process. Whereas traditional strategic planning focuses on identifying and describing one most probable or likely future and then developing a strategy which will allow the organization to succeed in that future. The goal of developing multiple scenarios is not to improve the odds of correctly

predicting the future but rather to allow managers to fully understand the driving forces affecting the future. This affords the manager the capacity to plan for alternative operating environments and to react to change is enhanced (Fahey & Randall, 1998). Utilizing this basic foundation of planning will allow fire service providers to better prepare for events which are not only more prevalent in their home jurisdictions but also for events outside of their home jurisdictions. As stated in this document, most FSPs concentrate on everyday operations and those events that occur within their jurisdictions more so than on terrorism.

Fahey and Randall (1998) identified many benefits using scenarios for strategic planning. Among these benefits are:

1. a common language within the organization to discuss different complex futures (for example, the scenario title will convey in just a few words a view of one possible future to all in the organization),
2. heightened sensitivity among the organization's members to signs that a particular future is unfolding (i.e., reading the paper with new awareness, etc.) and
3. a set of critical indicators to watch to determine which future, or blend of futures, is unfolding (Fahey & Randall, 1998).

This approach is beneficial to the success of FSPs in their efforts to secure their local jurisdictions. A secure and prepared jurisdiction is better prepared and able to contribute in the event of a large-scale event.

Rapid response and recovery are indicative of the fire service's traditional status quo delivery mission. The larger the emergency the more equipment and resources are deployed to manage it. These strategies and tactics are arguably very successful in the traditional sense of the fire service's role, but they are inadequate in response and preparation for catastrophic events (Cloud, 2008, p. 26; Doherty, 2004; Welch, 2006).

This conclusion is accurate when looking at FSPs of all sizes and locations. It has also been proven to be accurate in many large scale responses, such as Hurricanes Andrew and Katrina, as well as to the September 11, 2001 terrorist attacks in New York City.

The Honorable William Schneider, Chairman of the Defense Science Board stated, “I think we have to make some very sharp distinctions about the paths we take and the strategy we develop so that we have a clear idea of why our military forces are serving and how they will be trained, organized and equipped” (Schneider, 2001). This statement, while summarizing what Schneider thinks regarding why and how the military is serving, also parallels what the FSP is discovering about their current and future role and responsibilities as they relate to homeland security. The fire service must recognize Schneider’s military viewpoint and realize that there is more than one adversary and FSPs should adopt the viewpoint that there is more than one threat to plan for and respond to. Like the military, as Schneider discusses, FSP’s forces need to be designed in such a way that they are much more flexible and adaptable to threats as they emerge (Schneider, 2001). While Schneider’s focus is military in nature, one can apply these same concepts to FSPs who will most likely be unable create an all encompassing response model or role definition; however, the items identified can serve as a basis for FSPs to prepare and plan for the inevitable event within their jurisdictions.

Strategic planning simply addresses the issues or problems faced in the fire service today and will face in the foreseeable future. If FSPs can identify the strategic issues they face, the strategies follow easily. Therefore, strategic planning can be thought of as a process designed to identify those big-picture issues the FSPs are facing now and in an undefined future (Wallace, 2009, p. 101). Taking this philosophy and applying it to the homeland security discipline is important to ensure a “big-picture” is visualized when planning for expected and unexpected events. Wallace points out the importance of FSPs to acknowledge community needs and expectations as well as the level of risk the community is willing to accept (Wallace, 2009, p. 102). While FSPs have a strong tradition and history of strategic planning practices, it is important to realize the planning for and responding to jurisdictional hazards and events is an essential component when defining roles and responsibilities within homeland security. Fire departments exist because communities have decided (and learned from bad experiences) that an organization must exist to deal with the fires, floods, tornados, tropical storms, winter storms and other tragedies or emergencies of life. The fire service’s “menu” of services

has changed over time, because the community has identified changing needs and it was decided their fire department could and should provide services to meet those needs (Wallace, 2009, p. 102). A glaring omission in Wallace's last statement was acknowledging terrorist events or intentional human generated events.

The response of London's emergency services and transportation system to the bombing is considered the city's most comprehensive and complex response ever to a terrorist attack (Strom & Eyerman, 2008, p. 8). The events of 7 July were unprecedented in London, as was the challenge they presented. On that morning London's emergency services and transport workers mounted their biggest ever response to a terrorist attack. It was a response characterized by partnership and professionalism, and reflected the contingency plans that had been honed and tested over four years (London Resilience Forum, 2006, p. i). Responding agencies faced challenges during and immediately after the attacks, but major problems in emergency coordination were minimized because London officials had established relationships with one another and had practiced agreed-upon procedures. Consequently, everyone knew their roles and responsibilities; a command and control system was up and running quickly; and mutual aid agreements, planned out in advance, were successfully initiated and applied (Strom & Eyerman, 2008, p. 8). This planning and preparedness lead to a nearly seamless coordination of services. It is widely recognized multiagency and multi-jurisdictional coordination is difficult as small events can become large events with the potential of poor communications and financing becoming detrimental to the agencies and the progress of dealing with the event

Paul K. Davis defines capabilities-based planning (CBP) as planning, under uncertainty, to provide capabilities suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework (2005, p. 1). Davis contends CBP has three important features. First, uncertainty is fundamental, not a mere annoyance to be swept under the rug. Second, the idea is to develop capabilities to deal effectively not just with a well-defined single problem, but with a host of potential challenges and circumstances. Third, this is to be done not with the largesse of a blank-check policy, but rather while working within an economic framework (Davis, 2005, p. 2).

The third point is essential in today's economic uncertainty. The typical services of the FSP must be provided but must be accomplished with efficiency and effectiveness to achieve operational goals within defined budgetary restrictions. This must be done while expanding their scope to include terrorism and jurisdictional preparedness and security regardless of what type of event presents itself. Capabilities-based planning has the virtue of encouraging prudent worrying about potential needs that go well beyond currently obvious threats. At the same time, it imposes the requirement for responsibility and choice (Davis, 2005, p. 2).

In his book, *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*, John Bryson (2004) states, "There is no substitute for effective leadership when it comes to planning. Strategic planning is simply a set of concepts, procedures and tools designed to help executives, managers and others think, act and learn strategically on behalf of their organizations' stakeholders" (2004, p. 297).

The National Fire Protection Association (NFPA) sets standards for fire service providers. These standards address a wide range of different disciplines within the scope of the fire service. These various standards include *NFPA 921: Guide for Fire and Explosion Investigations*, (National Fire Protection Association [NFPA], 2008); *NFPA 1001, Standard for Fire Fighter Professional Qualifications*, (NFPA, 2008) and *NFPA 1975, Standard on Station/Work Uniforms for Fire and Emergency Services* (NFPA, 2009). While these standards are not specifically enforceable as legal documents, they are generally accepted guidelines which parallel standards set by and referenced to institutional standards of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) and U.S. Department of Health and Human Services' National Institute of Safety and Health (NIOSH).

NFPA 1500: Standard on Fire Department Occupational Safety and Health Program (NFPA, 2007) was originally published in 1987 as there was no consensus standard for an occupational safety and health program for the fire service. Fire service organizations were being increasingly subjected to regulations that were developed for general industry that did not provide for many of the specific needs and concerns of an

organization involved in the delivery of emergency services (NFPA, 2007). Nowhere in the long list of NFPA standards is there one that specifically defines the roles, responsibilities and expectations of the fire service within the discipline of homeland security. Likewise, there are no direct references or definitions related to the roles, responsibilities and expectations of the fire service within the list of regulations of OSHA or NIOSH.

D. MANAGEMENT/LEADERSHIP

There is no substitute for effective leadership when it comes to planning. Strategic planning is simply a set of concepts, procedures and tools designed to help executives, managers and others think, act and learn strategically on behalf of their organizations and their organizations' stakeholders (Bryson, 2004, p. 297).

Alicia L. Welch, fire captain of the Los Angeles Fire Department wrote in 2006, "Challenging the process involves changing the status quo and creating prevention based programs to deal with terrorism when response based programs are the norm. Leaders must inspire a shared vision...Line personnel are valuable resources that want to participate, but not without vision, training and education" (2006, p. 24). It is important to address who and or what will lead or manage fire service providers within the homeland security discipline. It is also important to lead by accomplishing some basic tasks to ensure buy-in and success. The tasks include: challenge the process, inspire a shared vision, enable others to act, model the way and encourage the heart (Kouzes & Posner, 1995, p. 12). Leaders must challenge the process by moving the fire service beyond the status quo to a level of proactive strategic performance. They must inspire a shared vision by engaging and soliciting participation in the planning process from the ranks and file, chief officers and other stakeholders. (Cloud, 2008, pp. 19–20). While these positions are essential for the success of FSPs to perform in the realm of homeland security, it is also essential for their success while performing the everyday duties within their jurisdictions.

Cloud, Doherty and Welch all address the short-comings of the fire service's traditional status quo delivery mission. The acknowledgement of these short-comings is

a vital step in broadening the scope of fire service provides with regards including terrorism within their service delivery models as well as defining what their capabilities are with respect to available resources.

E. CONCLUSION

An obvious trend discovered in the literature was the authors who had military backgrounds and/or responsibilities in their respective disciplines, presented issues which parallel with fire service providers. The fire service can learn a great deal from their military counterparts in respect to planning, strategy and operations.

It is quite apparent the discipline of homeland security is relatively new. It is also apparent there is a lack of an all-encompassing document within the discipline able to define the roles and responsibilities for homeland security responders of all types, or a specific template to follow for fire and emergency service providers. While there are various theses and other available literature which relate to homeland security, none of them fully address an all-encompassing structure or definition of the roles and responsibilities of the fire service.

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III. BACKGROUND

This case study will evaluate models, the FDNY and LFB, of two fire service providers which are considered leaders within the homeland security community. The models' similarities also compliment their basic differences to offer a wide variety of best practices in which any fire service entity may adjust to meet the specific entities needs and to promote a cultural shift to implement homeland security services. During this process, defining and developing roles and responsibilities of, not only the specific fire service entity, but of the fire service as a whole may be obtained by gaining valuable knowledge and insight from the best practices of our two model fire service providers. This thesis will analyze the structures, documents, policies, procedures and cultures of the Fire Department of New York and the London Fire Brigade to demonstrate and identify components which allow these fire service providers to be looked upon as successful service providers and models for other fire service providers to emulate.

Most fire services do not address or understand what homeland security is in a fire service context and how to incorporate homeland security into their:

- Doctrine and Organizational Culture
- Planning and Preparedness
- Resourcing and Training

Each of the FSPs examined in this document address these components, which, in turn, can provide direction and serve as a template for other FSPs to emulate.

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IV. CASE STUDY OF THE FIRE DEPARTMENT OF NEW YORK

The Fire Department of New York was chartered as a city agency in 1865. In 2008, FDNY responded to nearly 2 million incidents (Office of Public Information, 2009, p. 21), serving 8.25 million residents from 221 fire houses and 30 EMS stations with 16,186 employees with an annual operating budget of \$1.616 billion (Fire Department of New York, 2009). FDNY is the largest fire department and EMS system in the world (Office of Public Information, 2008, p. 5).

The following quote recognizes and confirms the course for the FDNY in identifying its doctrine and organizational culture as FDNY began to define its role and responsibilities within homeland security:

For September 11th, 2001, that terrible day is also a day that changed us. It changed our nation: never again would Americans look at the world the same way. It changed our Department too: never again could we do things the same way. And so we have begun the long, hard process of reconstruction to equip the FDNY for complexities we could not have imagined two years ago, much less a decade or century ago. The Department has begun to assess the kinds of emergencies we may have to face, the kinds of training we will need, the equipment we'll require, the technologies, the strategies, the procedures. We have begun to shape the premier fire department for the 21st century. If we are going to honor the memory of those we lost on September 11th, 2001, we can do no less." (Office of Public Information, 2007, p. 34)

The FDNY addresses homeland security practices through its mission statement and other documents which include: FDNY Vital Statistics; FDNY Strategic Plan 2009-2010; Annual Report 2007, FDNY Organization Chart and the Terrorism and Disaster Preparedness Strategy. These documents identify the multiple partnerships and expectations of the FDNY within the realm of homeland security and emergency preparedness. FDNY's mission statement reads:

As first responders to fires, public safety and medical emergencies, disasters and terrorist acts, the FDNY protects the lives and property of New York City residents and visitors. The Department advances public safety through its fire prevention, investigation and education programs.

The timely delivery of these services enables the FDNY to make significant contributions to the safety of New York City and homeland security efforts. (Office of Public Information 2008, p. 32)

The organization chart found on page 22 of the FDNY Strategic Plan 2009–2010 and in Figure 1 of this thesis demonstrates commitment and acceptance of the homeland security discipline within the FDNY as evident with the presence of specific commands and divisions such as Counterterrorism/Emergency Preparedness, Special Operations Command, Planning and Strategy, Bureau of Fire Investigations, Grants Development and Strategic Planning and Policy.

FDNY's *Annual Report of 2007* indicates it prepares for terrorism as one of six items labeled "What We Do" within the Agency Highlights 2007 section. (Office of Public Information, 2008, p. 1). Mayor Michael R. Bloomberg wrote in his "Message from the Mayor" for the *FDNY Annual Report of 2007*, "This report marks the highlights of the 18 months between July 2006 and December 2007, delineating the FDNY's incredible achievements in the fields of firefighting, emergency medicine and terrorism preparedness" (Office of Public Information, 2008, p. 2).

Within the first four pages of this document the three executive leaders of the city and the department demonstrates a fundamental and unified approach and recognition of the importance of addressing homeland security and terrorism in the every day operation of the FDNY. FDNY lists six core values of the department: service, bravery, safety, honor, dedication and preparedness (Office of Public Information, 2008, p. 32.). Preparedness is described in this context as by combining all of the components of core values, the FDNY will maintain its constant state of readiness to meet all threats and challenges, traditional and new (Office of Public Information, 2008, p. 32).

Like the fire service in general, FDNY has evolved with regards to the type of services it provides and the level of service customers can expect. Aside from the traditional fire suppression, emergency medicine, hazardous materials and inspection duties, FDNY has addressed and embraced new services such as natural or terror-induced medical emergencies; chemical, biological, radiological, nuclear, incendiary and explosive terrorist acts and arson, cause/origin, intelligence, law enforcement and site security relating to fire investigation (Office of Public Information, 2008, p. 7).

To understand and address planning and preparedness in relation to homeland security, the following is indicative of the efforts FDNY to ensure success. The *FDNY Strategic Plan for 2009–2010* summarizes the New York City Fire Department's key goals and objectives for the next two years. Publication of this strategic plan, the department's third, is an important next step in solidifying strategic planning as part of the FDNY culture. Department executive staff undertakes a detailed assessment of the department's short- and long-term goals and objectives every two years (Office of Public

Information, 2009, p. 1). There are five broad goals outlined in the *FDNY Strategic Plan for 2009–2010* and for this thesis, the first goal, improve emergency response operations, will be addressed. Enhance the department's preparedness to respond to fires, emergencies, disasters and acts of terrorism. The department's highest priority continues to be to enhance its operational capacity to respond to fires, pre-hospital emergencies, building collapses and hazardous materials incidents, as well as natural disasters, terrorist acts and other emergencies (Office of Public Information, 2009, p. 2).

Additionally, the *FDNY Strategic Plan for 2009–2010* defines the FDNY's scope of services as its responsibilities to include traditional firefighting and providing pre-hospital care, as well as handling all types of public safety emergencies, such as hazardous materials incident, building collapses, transportation accidents, utility-related emergencies, natural disasters and acts of terrorism in New York City (Office of Public Information, 2009, p. 19). Included in the 11 critical responsibilities is the recognition of past evolution of FDNY and the need to continue to evolve to meet the needs of the city. The 11 critical responsibilities include:

- Fires-structural and non-structural
- Medical emergencies-accidental, natural disasters or terrorist acts
- Utility emergencies disruption-gas, electric, steam, water and sewer
- Terrorist acts—chemical, biological, radiological, nuclear, incendiary and explosive
- Fire prevention-inspection, education, enforcement and evacuation
- Fire investigation-arson, cause/origin, intelligence, law enforcement and site security
- Structural collapse-search, rescue and recovery
- Hazardous materials—incident response and planning
- Transportation incident—land, air, rail, water

- Catastrophic weather events—hurricanes, storms, earthquakes, snow, heat
- Special event and dignitary protection-planning and response

Five of those 11 critical responsibilities are listed below and their relevance to homeland security.

A. MEDICAL EMERGENCIES—ACCIDENTAL, NATURAL DISASTERS OR TERRORIST ACTS

With the merger of EMS into the fire service in 1996, the department increased its response to medical emergencies-arising from accidental, natural (caused by nature, such as storms, floods, snowstorms, earthquakes) or deliberate acts-and now provides a complete package of pre-hospital care, mass-casualty trauma care, decontamination and hospital transport. The department is also responsible for the provision and coordination of emergency medical service throughout the city.

B. TERRORIST ACTS—CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, INCENDIARY AND EXPLOSIVE

Homeland security issues now necessitate that FDNY members have the ability to respond to and mitigate acts of terrorism-chemical, biological, incendiary, radiological, nuclear or explosive. The FDNY has focused on “consequence management” through continuous training and simulation exercises.

C. FIRE INVESTIGATION—ARSON, CAUSE/ORIGIN, INTELLIGENCE, LAW ENFORCEMENT AND SITE SECURITY

The fire investigation arm of the FDNY traditionally dealt with arson investigation and the cause and origin of fires. These duties have been expanded to include law enforcement agency interaction, intelligence-sharing and site security due to the increase in terrorist threats.

D. HAZARDOUS MATERIALS—INCIDENT RESPONSE AND PLANNING

The FDNY HazMat Group works with city agencies to provide comprehensive hazardous materials response capability to the city. The department has combined the highly specialized FDNY Hazardous Materials Company #1, which works with 12 Hazardous Materials Technician Companies, into a comprehensive “HazMat Group,” in order to respond to and mitigate hazardous materials incidents of all levels. EMS units provide medical decontamination, patient management and medical support for haz-mat units. A total of 130 other fire and medical units are trained in specific missions for large hazardous materials events, including weapons of mass destruction (WMD) attacks. These missions include rescue, detection, identification, control, medical intervention, mitigation and decontamination. The threat of biological, chemical and radiological terrorism demands that the FDNY maintain its preparedness role for the protection of New York City.

E. SPECIAL EVENT AND DIGNITARY PROTECTION—PLANNING AND RESPONSE

Special event protection now includes planning for and response to events, including high-profile sporting events, New Year’s Eve and United Nations’ functions. With the added threat of terrorism, these events take on a whole new dimension and no longer are routine (Office of Public Information, 2009, pp. 19–20).

The final FDNY document utilized for this comparative analysis is the *Terrorism and Disaster Preparedness Strategy* (Office of Public Information, 2007). This document was created in 2007 and outlines FDNY’s progress in preparing for future terrorist threats and natural disasters, including the development of new operational capabilities and expanded capacity to respond to all hazardous events in New York City (Office of Public Information, 2008, p. 7). From the very beginning of this document, the same recognition of the past with a view to the future found in the previous documents is present here as well as evident by the following text:

This document will provide direction and unity of vision to the Department’s efforts toward enhanced preparedness. It also will provide

direction and cohesion across the different bureaus within the Department and lead to a more coordinated approach to planning, training, equipping and responding. As we consider the threats of today and tomorrow, it is important that we identify the critical uncertainties in our environment, remove the blind spots from our thinking and develop a flexible strategic vision for the future (Office of Public Information, 2007, p. 4).

This document specifically addresses terrorism and natural disasters and the importance to consider each threat has unique characteristic when considering its mission and focus. For the FDNY, attaining the optimal state of terrorism and disaster preparedness to achieve the department's homeland security mission within a complex threat environment demands an organization that is:

- strong and swift in the initial response
- clear about the operational mission
- confident in the leadership and command
- trained and equipped to execute the mission
- dedicated to protecting responders and civilians against danger
- informed and able to maintain a sharp sense of situational awareness
- adaptive to changes in the operational environment and
- resilient enough to sustain operations until the job is completed

These qualities are imperative for an immediate and effective response, especially when the organization's operational mission is saving lives (Office of Public Information, 2007, p. 13). There are four mission focus points identified within the *FDNY's Terrorism and Disaster Preparedness Strategy 2007*. They are:

- Organizational adaptability—Create an organizational structure that enables the FDNY to rapidly and effectively adapt to complex incident planning and operations
- Response capability—Strengthen and enhance the Department's core competencies that form the foundation of the FDNY's response operations

- Prevention and protection—Maximize the FDNY’s contribution to preventing terrorist incident and reducing the city’s vulnerability to future attacks
- Coordination and collaboration—Enhance the FDNY’s ability to coordinate and collaborate on homeland security efforts with other public and private entities. (Office of Public Information, 2007, p. 14).

Each of these focus points addresses items within the scope of each point to achieve success. The organizational framework presented within the FDNY’s strategy follows a systems-based, department-wide approach to preparedness and establishes a meaningful system for measuring the outcome of FDNY’s efforts. The program management objectives of integration and sustainability are achieved by concentrating FDNY preparedness efforts on reinforcing the department’s core capabilities, while efficiently building response capacity, skill proficiency and resource deployment following the tiered response model. The principles of unified command and collaboration are stressed throughout the strategy and built into all of the FDNY’s preparedness efforts (Office of Public Information, 2007, p 33).

In his “Message from the Fire Commissioner,” Nicholas Scoppetta wrote:

We opened a new base for our Fire Marshals in Fort Totten, Queens, creating a City-wide North Base for the Bureau of Fire Investigations (BFI). Along with a 30 percent increase in BFI staffing, the Department will increase investigations by more than 20 percent, leading to more arrests and improved knowledge of fire trends that will reduce fires and improve public safety throughout the City. (Office of Public Information, 2008, p. 3)

On a continuing basis, BFI has a liaison to the multi-agency Anti-Terrorism Work Group (ATWG). BFI receives briefings from federal, state and local governments on potential threats to New York City public security. Operating in today’s climate, under a continual threat of terrorism, the BFI has fire marshals assigned to the FBI’s Joint Terrorism Task Force (JTTF), ensuring that the FDNY has direct access to information that could prove crucial in case of another attack. Additionally, BFI staff continues to develop and fine-tune internal security enhancements for the department and provide security details and dignitary protection at various functions. The department’s fire

marshals provide additional security through target-hardening (surveillance and barriers) of FDNY facilities (Office of Public Information, 2007, p. 12). In his “Message from the Chief of Department,” in the *FDNY Annual Report*, Salvatore J. Cassano wrote:

Last September, the FDNY and the Department of Homeland Security hosted fire officials from around the country at a ground-breaking conference on information- and intelligence-sharing. The conference launched an ongoing collaborative effort among the country’s major fire departments to formalize the sharing of important information (Office of Public Information, 2007, p. 4).

Addressing the need to revise the city’s fire code, on June 3, 2008, Mayor Bloomberg signed into law a new fire code—the first comprehensive revision of the code in almost a century. The new code was drafted by civilian and uniformed staff in the Department’s Bureaus of Legal Affairs and Fire Prevention, which worked on this major revision during a three-year review with the goal of updating fire safety standards throughout the city (Office of Public Information, 2008, p. 13). As stated in the report, one benefit of the revised fire code is expanded emergency preparedness planning in Assembly and Mercantile Occupancies (Office of Public Information 2008, p. 13). In fiscal year 2009, FDNY conducted 259,150 building inspections and 7,726 fire safety education presentations (Fire Department of New York, 2009).

As part of the effort in achieving a high level of preparedness for mitigating major incidents requires the FDNY to maintain a strong focus on four main points:

1. organizational adaptability
2. response capability
3. prevention and protection
4. coordination and collaboration (FDNY, 2007, pp.13–14)

F. ORGANIZATIONAL ADAPTABILITY

In recognition that broad organizational change was needed in order for the department to adapt its response operations to the large and complex incidents the new

threat environment present, three main concepts were addressed. They are: network-centric command, tiered response and decentralization are addressed (Office of Public Information, 2007, p. 14).

Effective strategic and tactical decision-making for homeland security requires that commanders receive timely and complete information, as well as an ability to communicate that information to other security partners. Network-centric command is an information-sharing framework that integrates voice, video and data information from multiple internal and external sources. This system provides a comprehensive, real-time picture of credible threats for strategic planning and situational assessments for enhanced tactical command (Office of Public Information, 2007, p. 14). This type of command system allows for information sharing amongst all involved with the incident while providing a situational awareness of the incident as it evolves.

To ensure the optimal availability and distribution of response resources, the FDNY established a tiered response system. Tiered response is a system of layered resource grades, with each layer containing a defined number of units with incrementally higher levels of special response capabilities (FDNY, 2007, p. 15). This system enables Incident Commanders to rapidly deploy the appropriately scaled mix of specialty units in a manner that is responsive to an incident's escalation or recession, while maintaining adequate capabilities to manage additional incidents and coverage throughout the department's entire response area. The FDNY's system of tiered response follows the two main principles of the National Incident Management System (NIMS): flexibility and standardization (Office of Public Information, 2007, pp. 14–15).

Another aspect of FDNY organization is decentralization, which has been addressed by FDNY strategically locating resources throughout the city's five different boroughs. This ensures various resources are available and able to address any situation within any of the five boroughs. Collectively, the organizational principles of network-centric command, tiered response and decentralization ensure the FDNY can adapt to changes in the threat and operational environments and continue to provide an effective response regardless of incident conditions (Office of Public Information, 2007, p. 15).

1. Response Capability

The core competencies identified as FDNY mandates include: fire suppression, pre-hospital emergency medical care, structural evacuation, search and rescue, CBRN/haz-mat life safety/decontamination and arson investigation. As was the case on 9/11, it will be the FDNY's primary responsibility to mitigate the effects of all fires, regardless of their cause, and rescue victims trapped within the fire scene. With the appropriate counterterrorism and hazardous materials training, firefighters are becoming better able to identify the signs of danger and take appropriate actions to protect themselves and their fellow first responders Office of Public Information, 2007, pp. 15–16).

FDNY acknowledges that any terrorist attack or natural disaster likely could result in a mass casualty incident (MCI), which is generally defined as an incident involving five or more patients and potentially requiring extraordinary resources. These incidents also could produce MCI situations with exacerbating circumstances, such as the presence of a hazardous material. To save the greatest possible number of patients from death or serious injury requires mass decontamination (five or more patients), prompt triage, appropriate treatment and prioritized patient transport to designated medical facilities (Office of Public Information, 2007, p. 17). The FDNY is also up training many of its firefighting force to emergency medical technicians (EMTs) and paramedics thereby allowing for more flexibility and more efficient patient care.

The FDNY is responsible for making all tactical and strategic decisions regarding the structural evacuations, including the decision to shelter in place. The events of 9/11 demonstrated the FDNY's ability to quickly mobilize its resources and effectively save lives (Office of Public Information, 2007, p. 17). To be effective and efficient during structural evacuations, fire fighters and fire officers should become familiar with structures within their response districts. By conducting company inspections of these structures, knowledge of structure layout and design, means of egress, on-site storage of potential hazardous materials, and heating, ventilation, air-conditioning (HVAC) system operations and any other on-site system can assist and benefit fire companies in their duties.

Another important element of FDNY's response capability is its search and rescues component. The search and rescue component is organized in the tiered response model and includes five Rescue Companies, seven Squad Companies and 25 Special Operations Ladder Companies with the highest level of technical extrication and victim-removal capabilities for rescuing civilians or first responders in extraordinary situations (Office of Public Information, 2007, p. 18). There are also additional companies that are trained to assist these rescue companies in other various search and rescue disciplines. The advanced rescue training FDNY search and rescue firefighters and paramedics receive satisfies the training requirements for their participation in the New York Task Force 1, Urban Search and Rescue Team, an elite inter-agency unit that is part of a national network of search and rescue teams under the Federal Emergency Management Agency (Office of Public Information, 2007, p. 18).

To address chemical, biological, radiological and nuclear (CBRN) haz-mat life safety and decontamination, FDNY has a specialized company with thousands of department members trained to support that special company, HazMat 1. HazMat 1 has the support of not only many land-based fire/EMS personnel, but also the support of many marine-based resources. These marine-based resources and the various types of marine craft not only perform firefighting and rescue services but they also provide assistance to HazMat 1 in addition to protecting the city's waterways.

The BFI and its responsibilities round out the response capability of investigation, intelligence and security point. The primary mission of the FDNY Bureau of Fire Investigation (BFI) is to investigate complex, fatal and suspicious fires in the City of New York and deter additional acts of arson (Office of Public Information, 2007, p. 19). The BFI works closely with other law enforcement agencies and the intelligence community on threat analysis and complex incident investigations.

As part of the BFI, fire marshals are members of numerous collaboration and intelligence networks, including the Joint Terrorist Task Force (JTTF) with the Federal Bureau of Investigations (Office of Public Information, 2007, p. 19). This group of fire marshals has become very important to the FDNY in not only the traditional fire service expectations of fire investigations but also within the law enforcement discipline. These

fire marshals have full police powers in addition to being considered by the state of New York expert witnesses as related to fire cause and origin events. The BFI also provides fire ground and incident scene security as well as FDNY facility security.

2. Prevention and Protection

Information sharing, terrorism prevention and infrastructure protection are addressed. As the agency tasked with championing life safety within New York City, the FDNY is responsible for ensuring that mandates are effectively fulfilled. Additionally, the department also must continue to work with other city, state and federal agencies, as well as the private sector, to enhance the quality, capability and cohesiveness of the city's and nation's overall ability to provide homeland security (Office of Public Information, 2007, p. 19). The FDNY recognizes the importance of information sharing and terrorism prevention. The two are complimentary of each other. One of the most effective ways to enhance homeland security efforts is by sharing information with security partners. The FDNY has worked steadily toward increasing the ability to interface with other local, state and federal emergency management, intelligence and law enforcement agencies to collectively enhance prevention and preparedness through the rapid and comprehensive exchange of information. Additionally, real-time intelligence and information lead to a heightened state of situational awareness, which is imperative in both the planning and responding stages of operations. In reaction to information gathered and based on the type of intelligence received, the FDNY can increase inspection activity to assist in detection or strategically locate additional resources to act as a terrorism deterrent (Office of Public Information, 2007, p. 20).

Efforts in achieving success in terrorism prevention can be modeled after fire prevention within the FDNY. As a result of a large and catastrophic fire which broke out in the Triangle Shirtwaist factory on March 25, 1911, the Bureau of Fire Prevention was formed on May 1, 1913. The events of 9/11, like 1911, again prompted the fire department to see prevention on the same level as consequence management. And like fire prevention, terrorism prevention is a role of the FDNY that needs to develop and grow (Office of Public Information, 2007, p. 20). As mentioned previously, members of

FDNY have many opportunities to gather and report suspicious activities with the many emergent and non-emergent calls for service, building inspections as well as many high profile events within New York. Much information can be gathered through the nearly 2 million fires, medical and other responses and the nearly 270,000 building inspections and fire safety education presentations (Fire Department of New York, 2009).

Finally, infrastructure protection is the last part of the prevention and protection. Calculating the threat of a terrorist attack on critical infrastructure and key resources (those assets, systems, networks and functions that provide vital services to the nation) begins with a realistic assessment of likely terrorist targets, coupled with timely information from law enforcement and intelligence agencies on credible threats to specific structures (Office of Public Information, 2007, p. 21). FDNY has prioritized infrastructure protection with the utilization of the Risk Assessment and Target Hazards (RATH) unit. The RATH unit coordinates the evaluation of sites that are part of New York City's Threat Matrix, including special inspection of critical infrastructure throughout the city and the development of tactical response plans for specific structures (e.g., bridges, tunnels, stadiums, government buildings, transportation systems, etc.) (Office of Public Information, 2007, p. 21).

3. Coordination and Collaboration

Coordination and collaboration addresses incident management, mutual aid and the private sector. To manage the department's core competencies, the department must be able to rapidly scale resources to respond to a large spectrum of conventional and unconventional terrorist attacks and natural disasters. This requires the ability to manage communications, command, control and information during exacerbating circumstances and throughout lengthy operations (Office of Public Information, p. 22). To address incident management issues FDNY adopted the Incident Command System (ICS) and have trained all of FDNY members to varying degrees of the ICS in an attempt to reduce information gaps at incidents and to ensure effective, efficient and safe operations on the incident scene. FDNY addresses mutual aid in a grander than usual manner. The FDNY's operational authority exists within the physical are of New York City, the

department's duty goes beyond the city limits. The FDNY has an obligation to prove response and management resources to support other jurisdictions that face incidents that outstrip their response capability or capacity. The FDNY's Incident Management Team (IMT) can provide service anywhere in the country when requested by federal officials (Office of Public Information, 2007, pp. 22–23).

Protecting the lives of New York City residents and visitors means not only working with public sector partners to provide a robust response, it also means empowering the private sector with the knowledge and training they need to protect themselves. The FDNY has launched a campaign to increase the number of local residents with the skills to perform cardiopulmonary resuscitation (CPR) and has worked closely with the New York City Office of Emergency Management to train hundreds of local residents regarding how to prepare themselves and their communities through the Community Emergency Response Team (CERT) program (FDNY Terrorism and Disaster Preparedness Strategy, 2007, p. 23).

Operational readiness is the ability of a unit or system to fully execute the missions or functions for which it is designed. In the homeland security context, this requires giving responders the tools, training and support, such as those identified by the National Preparedness Goal, that they need to do their job. DHS's National Preparedness Goal identifies several elements that are required to fully develop capabilities and achieve a station of operational readiness: planning; organization and leadership; equipment and systems; training; exercises, evaluations and corrective actions and personnel (POETEP) (Office of Public Information, 2007, p. 25). In keeping with elements identified by DHS within the planning realm, FDNY utilizes Standard Operating Procedures (SOPs), Incident Action Plans (IAPs) and Emergency Response Plans (ERPs) to address specific actions, events and complex scenarios. This allows for a better understanding of expectations of the department within and during city-wide planning and response.

Additionally, the department is creating a Continuity of Operations Plan (COOP). This will enable department leaders to operate in the event portions of the Department become inoperable. A succession plan designed within the COOP will help determine the chain of command in the event it is necessary.

Also noted, the department has developed several advanced management and leadership education programs for FDNY officers, including the Fire Department Officers Management Institute (FOMI) (conducted by Columbia University) and the FDNY/United States Military Academy (USMA) Combating Terrorism Leadership Course (developed and conducted in collaboration with the USMA at West Point). Additionally, several FDNY officers have attended the Naval Postgraduate School (NPS) masters program in security studies. These programs provide department leaders with the skills they need to effectively manage the FDNY's complex terrorism and disaster preparedness initiatives (Office of Public Information, 2007, p. 26).

Another component of FDNY, the Center for Terrorism and Disaster Preparedness (CTDP), oversees the organization of preparedness efforts and work with other departmental operational and administrative units to ensure coordinated, comprehensive and consistent efforts thus allowing the overall system to allow department leaders to ensure future needs are being met. To meet equipment and system objectives, FDNY must continually develop the ability to support operational objectives. For example there is a continuous effort to update/upgrade firefighting apparatus, equipment, tools to ensure each borough has sufficient resources to ensure firefighter and citizen safety and effective and efficient service delivery.

While the FDNY continues to enhance available equipment and systems, it is also necessary to protect existing physical resources. Target hardening of department resources will include enhancing security measures at several of the department's facilities, including training academies, administrative offices and apparatus storage sites. The infiltration of any of these sites could create serious threats to the department's ability to function (Office of Public Information, 2007, p. 26).

FDNY's training initiatives are extremely comprehensive and in many cases exceed national standards. The department has institutionalized counterterrorism training into the standard emergency response curriculum for all personnel. Such training enhances members' ability to maintain a high level of situational awareness for secondary dangers during the conduct of standard operations. This training will continue with the content evolving, based on new credible threats. Refresher training and department-wide

bulletins also will conform to the changing threat environment to keep members abreast of new dangers and guard against complacency in the absence of new incidents (Office of Public Information, 2007, p. 27). The training component ties into the exercises, evaluations and corrective actions process.

In support of these processes, through the National Fire Academy (NFA), FDNY has created an Exercise Design Team (EDT) which allows for the evaluation of department capabilities within the wide ranging services provided by the department. This EDT also allows the department to work with internal and external partners on multi-jurisdictional exercises without requiring outside consultants which in the long run saves budgetary resources. Once an exercise or actual incident has occurred, the EDT evaluates the exercise and writes up an After Action Report (AAR) to evaluate the success of the event and based on that AAR an improvement plan is written to address the conclusions and recommendations.

The EDT's findings within the AARs assist in finding the strengths and weaknesses observed at a given incident will allow for development of training and exercising opportunities for improving weaknesses and solidifying strengths. Personnel quality will matter as never before as emergency responders confront a variety of missions and are called to adapt to new threats. The high skill level and dedication of the fire department's 15,000+ member work force sets a new level of excellence in qualifications and standards (Office of Public Information, 2007, p. 27). The department also protects its investment in personnel in a number of ways. The BFI assist local law enforcement in perimeter security during fire ground operations, Safety Battalion 1 responds to incidents and monitors operations for safety concerns; the FDNY Bureau of Health Services (BHS) oversees the health and wellness of the uniformed members by providing numerous medical evaluations and treatment programs (Office of Public Information, 2007, pp. 27–28).

To ensure FDNY terrorism and disaster preparedness efforts meet the department's needs and that preparedness initiatives produce desired outcomes, the department has created a system of analysis, planning and evaluation for terrorism and disaster preparedness activities. The system consists of a strategy cycle which includes

risk assessment; response assessment; resource inventory; needs analysis; goal prioritization; objective development; implementation; and evaluation. The strategy cycle process will be managed by the FDNY's Center for Terrorism and Disaster Preparedness (Office of Public Information, 2007, p. 29).

FDNY has developed evaluation points to measure the state of preparedness versus the optimal state of the department. To ensure the department-wide involvement in completing the strategy cycle, the department has created the CTDP advisory committee, consisting of representatives from Fire Operations, EMS Operations, Special Operations Command, Safety, Training, Communications, Fire Prevention and Fire Investigations. The advisory committee is charged with setting the FDNY's long-term strategy goals and prioritizing annual performance goals (Office of Public Information, 2007, p. 32).

In conclusion, the organizational framework presented within the FDNY's documents follows a systems-based, department-wide approach to preparedness and establishes a meaningful system for measuring the outcome of FDNY's efforts. The program management objectives of integration and sustainability are achieved by concentrating FDNY preparedness efforts on reinforcing the department's core capabilities, while efficiently building response capacity, skill proficiency and resource deployment following the tiered response model. The principles of unified command and collaboration are stressed throughout the strategy and built into all of the FDNY's preparedness efforts (Office of Public Information, 2007, p. 33).

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V. CASE STUDY OF THE LONDON FIRE BRIGADE

This case study will attempt to identify policies, procedures and values of the London Fire Brigade (LFB) which was selected because of its Western orientation.

The LFB is run by the London Fire and Emergency Planning Authority (LFEPA), which is part of a group of organizations operating within the framework of the mayor of London and the Greater London Authority (GLA) (Mayor of London, 2009, p. 4). The LFB serves 7.5 million residents; responds to 150,000 incidents annually from 112 fire stations with 7,200 employees and an annual budget of £430 million (Mayor of London, 2009, p. 4). Additionally noted, London is one of the most culturally diverse cities in the world and the largest city in Europe (London Fire and Emergency Planning Authority, 2008, p. 46).

The following quote by London Fire Commissioner Ron Dobson demonstrates the LFB's affirmation in identifying its doctrine and organizational culture as the LFB defines its role and responsibilities within homeland security. In the London Safety Plan, Dobson States:

This London Safety Plan sets out my vision as the new fire commissioner for an increasingly efficient, effective and flexible fire and rescue service in London—which is ever responsive to the increasing wide range of emergencies we need to respond to. Londoners continue to see firefighters at the forefront of work to make the capital a safer city and this plan underlines the vital role they play in achieving this aim. In the coming years, firefighters will increasingly protect the communities they serve through focused work that reaches those most at risk from fire. They are already making a real difference. In recent years, fire deaths, fire injuries, and deliberate fires and the number of hoax calls we respond have fallen dramatically. Our firefighters, other staff and partners will be working hard over the duration of this plan to reduce these figures further. There is a continuing commitment for the Brigade to work with partner organisations towards our joint objectives. The Brigade's programme of home fire safety visits will get stronger and stronger with more than 40,000 visits carried out by our staff in 2007/08. In the coming years, significant investment will also be made to improve our resilience to a wide range of emergencies, including the possibility of terrorist attack and the results of climate change. Through the public affairs campaign to get

sprinklers installed in new and refurbished premises and another to reduce the disruption caused by incidents involving acetylene cylinders—we aim to deliver vital improvements in safety, not only in London but nationwide. We always strive to make the best use of the resources we have available. Having been successful in reducing the number of unnecessary call outs to false alarms, we will continue to work with owners and occupiers of buildings to reduce these further so that firefighter time is used most productively. (London Fire and Emergency Planning Authority, 2008, p. 3)

The LFB also addresses homeland security practices directly and indirectly throughout multiple documents. These documents include; *London Safety Plan 2008/2011* (London Fire and Emergency Planning Authority, 2008); *The London Safety Plan 2009/12* (Mayor of London, 2009); *Risk Management Strategy 2008/11* (London Fire Brigade, 2008); *Strategic Emergency Plan* (London Resilience Forum, 2005) and the *Major Incident Procedure Manual* (London Emergency Services Liaison Panel, 2007). These documents identify the multiple partnerships and expectations of the LFB within the realm of homeland security and emergency preparedness. These documents provide guidelines for all emergency response partners within and outside of the greater London response area. The organization chart, Figure 2 demonstrates the commitment and acceptance of the homeland security discipline within the LFB as evident by the well-rounded and well-defined divisions within the LFB.

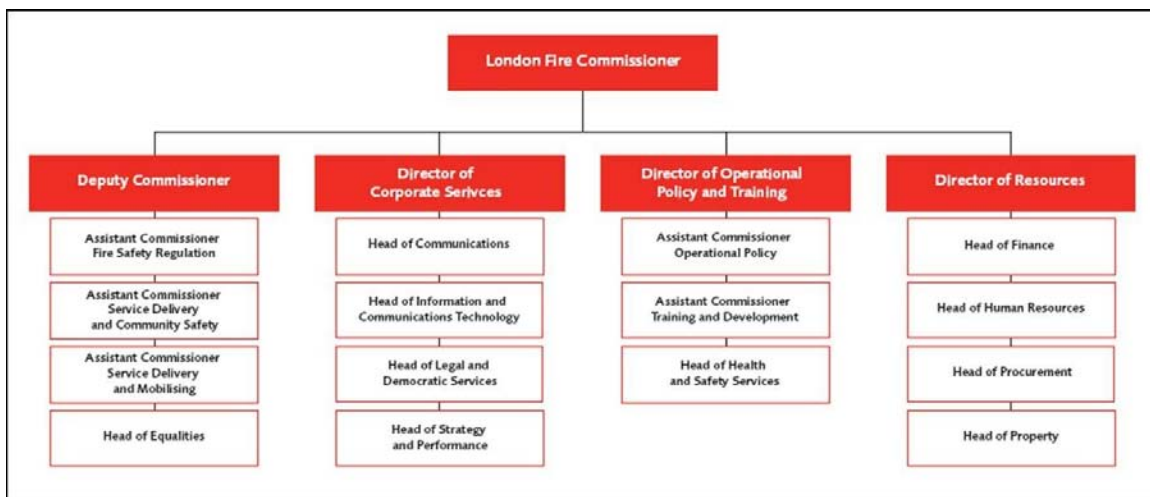


Figure 2. London Fire Brigade Organizational Chart (From London Fire Brigade, 2008)

The LFB has a long history of addressing homeland security in which London's coordination approach is rooted. This history includes extensive bombings of the city during World War II and the Irish Republican Army's campaign of violence in the 1970s and 1980s. In both cases, incidents were too extensive to be addressed by a single agency (Strom & Eyerman, 2008, p. 30). The coordinated approach includes collaborative responses to emergent and non-emergent events by various agencies such as law enforcement, fire service, military and various private and public partners. As mentioned earlier there has been a history of coordinated approach since World War II.

The doctrine the LFB follows is directly rooted to the Civil Contingencies Act 2004 while the American Fire Service (AFS) doctrine varies from jurisdiction to jurisdiction. Operationally, the LFB operates and is controlled by a central government organization of LFEPA. While this organization is regional in orientation, its scope and culture transcends local, regional and national boundaries. This culture is at the LFB's core, upon which it is founded as demonstrated throughout all of the documents presented. The size of a jurisdiction and the number and type of agencies within that jurisdiction are also critical in recognizing the complexities of large and extensive events. For example, the United Kingdom (UK) has 43 local police agencies, compared to more than 17,000 in this country (Strom & Eyerman, 2008, p. 31).

The LFB looks internally and externally for strengths and weaknesses and addresses each item for strengthening and improvement. The London Safety Plan 2009/12 states, "An annual cycle of review for all plans ensures these documents take account of any changes to the operational environment and potential impact on our priorities" (Mayor of London, 2009, p. 10). The LFB also looks beyond its borders in regards to policy and legislation. The LFB is respected nationally and at the European level as a global leader and contributor within the policy legislative arenas as addressed in the, *LFB's 2007 Direction of Travel* document which acknowledges the "*LFB commands influence over policy and legislation at national and European levels*" (Mayor of London, 2009, p. 23).

Additionally, *The London Safety Plan* addresses response initiatives to further improve capacity to respond to the new risks facing London and be in an even stronger

position to respond to acts of terrorism and other catastrophic events; to ensure effective counter terrorism operations and maintain the capacity to respond to major catastrophic events (Mayor of London, 2009, p. 25). These initiatives or intentions identify new risks, new partners, new roles and responsibilities as well as contingency planning and the securing and utilization of technology.

Another initiative described in the *London Safety Plan* is to develop and expand the program of community engagement to make sure that people living and working in or visiting London can help to shape the LFB's future services (Mayor of London, 2009, p. 20). By expanding community engagement to a wide range of people living, working and visiting London you will help create buy-in and ownership in the safety and security of everyone.

Another tool of the LFB is the Risk Management Strategy's framework appears to be utilized as a basic foundation for the institutional leadership within the LFB. Risk management is as much about empowerment, supporting innovation and seizing opportunities through informed decision making as it is about defending against negative threats and preventing adverse things from happening. Nevertheless, the development of any strategy needs to take account the culture of the organization from one that considers all risks to the brigade as a whole, both corporate and operational, especially those that may affect its strategic objectives (The London Fire Brigade, 2008, p. 2).

The Strategic Emergency Plan is an overview of the Strategic London response to emergencies. It also summarizes and highlights the pan-London arrangements such as response to emergencies that are either "Sudden Impact" or "Rising Tide" in origin (London Resilience Forum, 2005, p. 5). This plan was authored and approved by the London Regional Resilience Forum (LRRF) of March 2005. The aim of this document is to set out the strategic regional response of the agencies that make up the London Resilience Partnership (LRP) to incidents requiring multi-agency coordination on a pan-London level London Regional Resilience Forum, March 2005, p. 3). The objectives of this document are: to summarize and collate the key plans and procedures produced through the work of the LRP, which would be activated in the event of a large scale incident occurring in London; to give an overview of the response to ensure

understanding within the LRP; to outline roles and responsibilities of agencies under the different plans; and, finally, to provide a basis for joining up existing LRRF work-streams under one document (London Regional Resilience Forum, March 2005, p. 3).

The *Strategic Emergency Plan* contains the LRRF Command and Control protocol for dealing with an “emergency” as defined in the Civil Contingencies Act (2004). The Act details the strategic arrangements for London’s response to “emergencies” that are either “Sudden Impact” or “Rising Tide” in origin and the structure for pan-London emergency planning (London Regional Resilience Forum, 2005, p. 5). Emergency is defined within the Civil Contingencies Act 2004 as:

- An event or situation which threatens serious damage to human welfare in a place in the United Kingdom,
- An event or situation which threatens serious damage to the environment of a place in the united Kingdom, or
- War, or terrorism, which threatens serious damage to the security of the United Kingdom. (Civil Contingencies Act 2004, *Chapter 36, Part 1*)

Emergency types as defined in the *Strategic Emergency Plan* are as follows:

- Sudden Impact—This type of event or situation happens with little or no prior warning. The effects are usually felt immediately and include transportation accident, utility failure, industrial accidents or acts of terrorism etc.
- Rising Tide—This type of event or situation has a lead in time of days, weeks or even months and includes health pandemics, flooding, foot and mouth disease, industrial action etc. The onset can be gradual and the final impact may not always be apparent early on. (Regional Resilience Forum, 2005, p. 6)

In an effort to create strategic emergency planning efforts for London, the LRRF was established in 2002 to address the strategic emergency planning and resilience needs of the capital and draws together all the key agencies and stakeholders for this purpose. The LRRF is chaired by a Minister for Local and Regional Government with the mayor of London acting as deputy. The LRRF is supported in its work by a number of sub-committees and working groups that all contribute to developing policy and resilience. The Civil Contingencies Act 2004 provides for the establishment of Regional Resilience

Forums (RRF). The Forums role in broad terms is to bring together regional emergency planners, responders and other agencies and stakeholders to ensure effective coordination and strategic planning is delivered across a range of key capabilities. It will also ensure effective coordination is achieved with central and regional government (London Regional Resilience Forum, March 2005, p. 22).

The final London document utilized for this comparative analysis is the Major Incident Procedure Manual (MIPM) published by the London Emergency Services Liaison Panel (LESLP). The LESLP was formed in 1973 and consists of representatives from the Metropolitan Police Service (MPS), City of London Police (COLP), British Transport Police (BTP), the LFB, the London Ambulance Service (LAS) and local authorities. The Port of London Authority (PLA), Marine Coastguard (MCA), Royal Air Force (RAF), military and voluntary sectors are also represented. LESLP has the ability to invite representatives from other agencies into the group when required, depending on the nature and type of incident. The group meets once every three months under the chair of the Metropolitan Police Service, Emergency Preparedness Operational Command Unit.

The purpose of the MIPM is to describe the agreed procedures and arrangements for the effective coordination of their joint efforts. In this way the overall response of the emergency services will be greater than the sum of their individual efforts, to the benefit of the public (London Emergency Services Liaison Panel, 2007, p. 5). It should be noted that the procedures set out in this manual would apply to major incidents initiated by terrorist acts (London Emergency Services Liaison Panel, 2007 p. 6).

The MIPM defines a major incident as any emergency that requires the implementation of special arrangements by one or more of the emergency services and will generally include the involvement, either directly or indirectly, of large numbers of people. Some of these include:

- the rescue and transportation of a large number of casualties
- the large-scale combined resources of the police, London Fire Brigade and London Ambulance Service;

- the mobilization and organization of the emergency service and support services; for example, local authority, to cater for the threat of death, serious injury or homelessness to a large number of people; and
- the handling of a large number of enquiries likely to be generated both from the public and the news media usually made to the police.

Acts of terrorism including suspected involvement of chemical, biological, radiological and nuclear devices are subject to a specific multi-agency response supported by HM Government (London Emergency Services Liaison Panel, 2007 p. 7).

Throughout its various documents, the LFB, in partnership with many local, regional, national, public and private partnerships, recognizes homeland security is an all hazards concern which includes man-made and natural disasters, inter-agency collaboration, community partnerships; not just terrorism.

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VI. ANALYSIS

A secure homeland depends on clear accountabilities between all levels of the system from the government to first responders and citizens. It is especially crucial for first responders to have a clearly defined, documented, practiced and communicated role within homeland security. Without them, it is nearly impossible to preserve the fundamentals on which a community depends.

The FSP is usually the first to arrive and the last to depart any major occurrence within its jurisdictional response area. The fire service is critical for the successful response to, mitigation of, stabilization and recovery of the community and/or jurisdiction to ensure restoration and preservation of critical infrastructure. This is not just in response to terrorist events but also natural and other man-made events. It is important to be aware that most homeland security events are not static in nature; they are continually evolving towards resolution or increasing in intensity. The FSP is present in every neighborhood and is looked upon to be the primary first responder to stabilize, secure and ensure recovery and continuation of services for the community on a daily basis; as such, the fire service is an integral part of any community or jurisdiction. Restoration of basic services and or access to services vital to the community at-large as well as stabilization is generally one of the priorities of the FSP. After becoming established, a FSP can contribute to a community's or jurisdiction's level of homeland security.

A. DOCTRINE/ORGANIZATIONAL CULTURE

The operational differences between LFB and FDNY can be attributed to the fact LFB is operated and overseen by a central government organization, the LFEPA, which coordinates and defines emergency operations of the entire region related to emergency services and other essential infrastructure services. The LFEPA also incorporates partnering with city planning initiatives, emergency preparedness/planning practices, community awareness/education and outreach initiatives when coordinating and defining emergency operations and other essential infrastructure services. It is these operational

differences that the American fire service (AFS) must acknowledge and address for future success in homeland security efforts. The FDNY is a city organization charged traditionally with fire suppression, rescue and emergency medical services. However, as a result of the terrorist attacks of September 11, 2001, the FDNY acknowledged the necessity to change and to address its short-comings as evident by: “For September 11th, 2001, that terrible day is also a day that changed us...And so we have begun the long, hard process of reconstruction to equip the FDNY for complexities we could not have imagined two years ago, much less a decade or century ago...” (Office of Public Information, 2007, p. 34).

It is necessary for FSPs to have clearly defined goals and expectations of their entities when addressing homeland security doctrine. The failure to do so will result in ineffective and inefficient service delivery to citizens, communities and jurisdictions. Failure to address this issue will most likely contribute to some of the concerns and challenges cited in the *National Strategy for Homeland Security* of October 2007. Four challenges which that can be related directly to FSPs are:

- We must counter potential waning in the sense of urgency and levels of international cooperation as September 11 becomes a more distant memory and perceptions of the terrorist threat diverge.
- We must guard against complacency and balance the sense of optimism that is fundamental to the American character with the sober recognition that despite our best efforts, future catastrophes-natural and man-made-will occurs, and thus we must always remain a prepared nation.
- Although we have substantially improved our cooperation and partnership among all levels of government, private and non-profit sectors, communities and individual citizens, we must continue to strengthen efforts to achieve full unity of effort through a stronger and further integrated national approach to homeland security.
- Although we have improved our ability to manage the risks that we face in the twenty-first century global security environment, we must enhance our ability to measure risk in a consistent and commonly accepted fashion and allocate finite resources accordingly. (Homeland Security Council, 2007, pp. 6–7)

Both FDNY and LFB bring great attributes to the forefront of what should be considered when addressing homeland security. Homeland security roles and responsibilities within the fire service are unique to each FSP. Size of entity, size and type of jurisdiction served, geographic location, jurisdictional target threat assessments, budgetary resources, staffing, expectations of jurisdiction served and expectations of the service provider itself are all considerations. Many FSPs are jurisdictionally based and generally do not have multi-agency or multi-jurisdictional policies and/or procedures in place.

Both case studies demonstrate strong organizational culture, comprehensive planning and preparedness and commitment to resourcing and training as related to homeland security. These components create a strong basis for any fire service of any size in any jurisdiction to follow and create a template to address and provide homeland security services to not only their respective jurisdictions but also to local and regional partners in a holistic manner.

The LFB's experience in providing homeland security services is evident with the creation of multiple documents depicting a positive organizational culture, progressive planning and preparedness practices, as well as current and substantial resourcing and training, which is evident in each and every document presented in the LFB case study. The *Major Incident Procedure Manual* (MIPM) is the culmination of the LFB's effort that addresses each and every aspect of emergency services, public and private partners, military and voluntary entities. This well-rounded acceptance of multiple partners is critical for the LFB's success as it addresses its expectations within homeland security. The MIPM defines major incidents, addresses the different stages of major incidents as shown below in Figure 3, and identifies the appropriate resources to any given incident which requires multiple response disciplines. The MIPM also recognizes the autonomy of each public service entity in its daily operations.

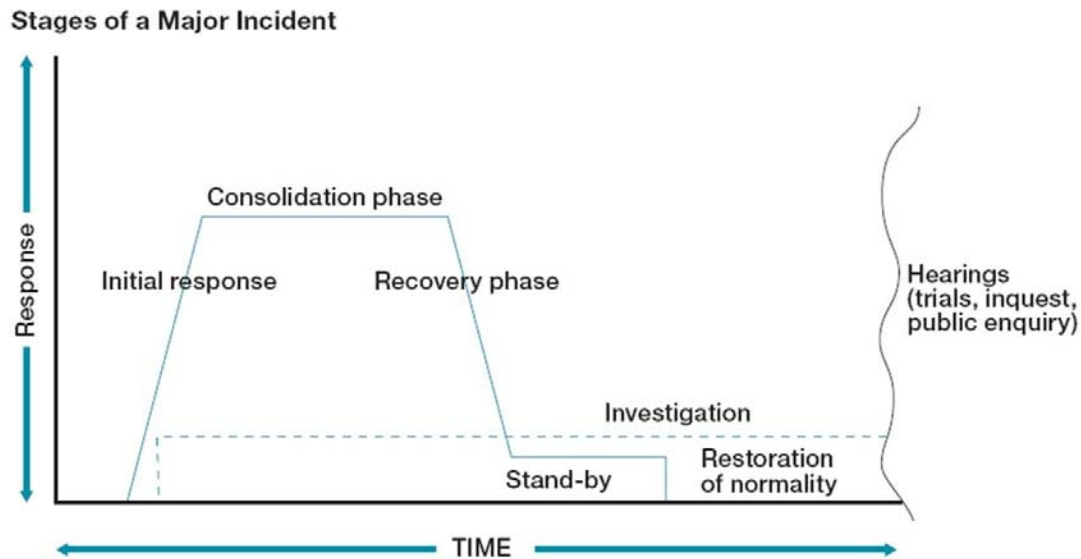


Figure 3. Stages of a Major Incident (From London Emergency Services Liaison Panel, 2007, p. 8)

The organizational culture of both case studies demonstrates an overall acceptance of homeland security responsibilities throughout the organizations from the lower levels of operations to the upper levels of policy makers. These two FSPs are considered successful homeland security practitioners because their organizational culture contributes to their success. Both entities embrace homeland security services as their responsibilities. As documented in the literature presented earlier, the experience of the LFB assisted in the prompt and effective response to the London Bombings of 7 July 2005. It was a response characterized by partnership and professionalism and reflected the contingency plans that had been honed and tested over four years (London Resilience Forum, 2006, p. i).

Conversely, FDNY acknowledged the lack of preparedness and planning for the unthinkable as stated earlier in the FDNY's 2007 *Terrorism and Disaster Preparedness Strategy*. The same acknowledgement can also be attributed to the lack of a homeland security culture within FDNY at the time of the attacks on 9/11 and quite possibly during the bombing of 1993. There is an overarching expectation of any FSP to be capable, competent and prepared to provide services to its jurisdiction. As mentioned earlier, as

the fire service has evolved, so have the services it provides. The LFB has a long history of providing homeland security services dating back to World War II. Whereas FDNY and the AFS in general have a relatively short history of providing homeland security services, which for FDNY date back to the World Trade Center bombing of 1993.

B. PLANNING AND PREPAREDNESS

Planning and preparedness are fundamental for any FSP. The foundation documents of most FSPs are standard operating procedures (SOPs)² that serve as standards or expectations of actions and operations of the FSP at any given event that generally focus on day-to-day operations of the given FSP. It is important to take what the LFB has experienced as a result of its long history of dealing with homeland security and with what the FDNY has acknowledged as its shortcomings and needs to address. These can be attributed to the planning and preparedness component of homeland security and can apply those experiences and lessons to FSPs. The FDNY's commitment to do so is reflected by, "...The Department has begun to assess the kinds of emergencies we may have to face, the kinds of training, we will need, the equipment we'll require, the technologies, the strategies, the procedures..." (Office of Public Information, 2007, p. 34).

The stages of the major incident diagram identify the initial response phase, consolidation phase, recovery phase and the steps to the restoration of normality. But what is not addressed in the stages of major incidents is the planning and preparedness process. Planning and preparedness serve as the basic foundation of any FSP as well as any public safety or emergency responder. Without this consideration, the operational phases of initial response, consolidation and restoration of normality would not proceed effectively or efficiently. It is necessary to proceed effectively and efficiently to ensure the needs of those affected are met and the stabilization of infrastructure is expedited to ensure continuity of operations for the affected jurisdiction. Each FSP and its jurisdiction would have different components based on size, jurisdiction served, geographic location,

² The term Standard Operating Procedures (SOPs) will be utilized in this document but can also be interchanged with Suggested Operating Practices (SOPs) and Recommended Operating Guidelines (ROGs).

jurisdictional target threat assessments, budgetary resources and staffing matrixes. In addition, each FSP will have some commonalities that can be utilized in collaboration with other FSPs to ensure homeland security jurisdictionally and regionally.

Planning and preparedness directly affect the stages of a major incident and are crucial in ensuring successful outcomes of a major incident. Planning and preparedness initiatives will be different for each FSP dependant upon size, jurisdiction served, geographic location, jurisdictional target threat assessments, budgetary resources and staffing matrixes. Once expectations are determined by policy-makers, politicians and constituents served by the FSP, then evaluations can occur internally to determine if adequate resources are available to meet those expectations. Contingency plans can then be developed to address internal gaps. Those gaps can be addressed and resolved by justification of increased internal resources such as staffing, equipment, infrastructure, exercising and training. Those gaps can also be addressed externally by forming partnerships with external partners that may include other emergency services providers, public and private partners, military and voluntary entities. As mentioned earlier, it is important for FSPs to remember most homeland security events are not static in nature; rather, they are continually evolving towards resolution or increasing in intensity. As such, planning and preparedness efforts and initiatives must be continually be updated and evolve to ensure current technologies and practices are utilized and integrated into the process. As indicated in the LFEPA's *The London Safety Plan* which reads; "An annual cycle of review for all plans ensures that these documents take account of any changes to the operational environment and potential impact on our priorities. A regular cycle of performance monitoring and reporting, involving the collection and presentation of data and information, ensures the organization is constantly aware of how it is performing and where there is room for improvement" (Mayor of London, 2009, p. 10).

It is necessary for FSPs to address the planning and preparedness components of homeland security. Without a current, up to date and realistic grasp of planning and preparedness, the operational components of initial response, stabilization, resolution and protection of or restoration of critical infrastructure will have a negative impact on not only the jurisdiction where the homeland security event is occurring but also on the FSPs

which are engaged with the event. It is also necessary for FSPs to ensure participation and recognition within continuity of operation planning; not only for itself, but also jurisdictionally and regionally. Without comprehensive planning and preparedness practices, resourcing and training efforts could prove to be ineffective and inefficient.

C. RESOURCING AND TRAINING

Resourcing and training needs are identified in planning and preparedness. Evaluating and inventorying of resource availability internally, as well as externally, are necessary to identify potential gaps and potential partners.

It is necessary to evaluate and assess assets available to the given FSP and determine if they are appropriate and sufficient to address potential homeland security events. It is important to avoid over-extending the resources available without having considered contingency planning to ensure effective and efficient continuity of operations. Resourcing reflects the size, jurisdiction, geographic location, target threat assessments, budgetary resources, staffing, and expectations of the jurisdiction members and partners. This reflection should account for gaps related to each of these items.

While not all FSPs share the same abundance of resources as the FDNY or LFB, and it is a given New York and London are the largest westernized cities in the world having unique threats to address, response expectations and responsibilities can be similar of smaller FSPs and must be accomplished regardless of staffing and resources, even at a proportionally smaller scale.

Accepting the reality that smaller FSPs do not have the abundance of resources as larger FSPs do, it is necessary to identify partnerships locally and regionally to ensure appropriate resourcing and training so the capabilities of the smaller FSP are sufficient to accomplish the homeland security objects set before them. It is imperative to reach out to other FSPs and take inventory of resources and their availability and capabilities. Once availability and capability are determined, it is necessary to train and exercise with federal, state, tribal and various local governments as well as private sector, military and voluntary entities across jurisdictional boundaries. Local governments (partners), as defined in the Homeland Security Act of 2002, section 2(10), the term “local

government” means “(A) a county, municipality, city, town, township, local public authority, school district, council of governments...regional or interstate government entity, or agency or instrumentality of a local government; (B) an Indian tribe or authorized tribal organization, or in Alaska a Native Village or Alaska Regional Native Corporation; and (C) a rural community, unincorporated town or village, or other public entity” 6 U.S.C. 101 (10) (Office of Homeland Security, 2008, p. i) can provide a vast pool of resources unique to the specific jurisdiction and contribute to the overall effort in addressing the specific event. During the training and exercising of these various assets, deficiencies that may have been overlooked in the planning and preparedness phase can be identified and corrected in the controlled environment of any given exercise whether it is table-top exercise or practical exercise.

D. MEGACOMMUNITY APPROACH

Considering the complexities of the case studies, it is a challenging opportunity to apply components of the FDNY and the LFB to small and mid-size FSPs. It is obvious that FSPs with greater staffing have the flexibility to include more of the homeland security functions which have been identified throughout this document. However, each and every FSP has challenges when addressing staffing, equipment allocation and maintenance. In addition, budgetary resources are difficult to continually secure for the duration desired or necessary by FSPs whose responsibilities are to provide homeland security services. FSPs, regardless of their size, type of jurisdiction served, geographic location, jurisdictional target threat assessments, budgetary resources, staffing, expectations of jurisdiction served must address these concerns in an all-encompassing manner.

It is necessary for FSPs to develop a megacommunity-type approach to homeland security. Utilizing this type of approach will allow FSPs to partner with and to utilize assets of those partners who are available within government, civil society and business

that are identified as the three sectors which create a megacommunity.³ A megacommunity is a public sphere in which organizations from three sectors—business, government and civil society—deliberately join together around compelling issues of mutual importance, following a set of practices and principles that make it easier for them to achieve results without sacrificing their individual goals (Gerencser, Kelly, Napolitano & Van Lee, 2008, p. 53).

For the purposes of defining FSP’s megacommunity, it is necessary to include and/or identify the following types of entities, while acknowledging the potential for many other possibly unidentified entities within the three sectors identified in the megacommunity definition:

- County government
- Federal government
- Hospitals
- Law enforcement
- Jurisdictional partners
- Local government
- Military
- Other FSPs
- Private partners
- Public health
- Public partners
- State government
- Tribal government
- Voluntary partners

³ A collaborative socioeconomic environment in which business, government and civil society interact accordingly to their common interests, while maintaining their unique priorities (Gerencser, M., Kelly, C., Napolitano, F., Van Lee, R., 2008, p 232).

With these identified partners and those yet to be identified, FSPs can model their own “Megacommunity” with those who can be found in any location identified in Figure 4.

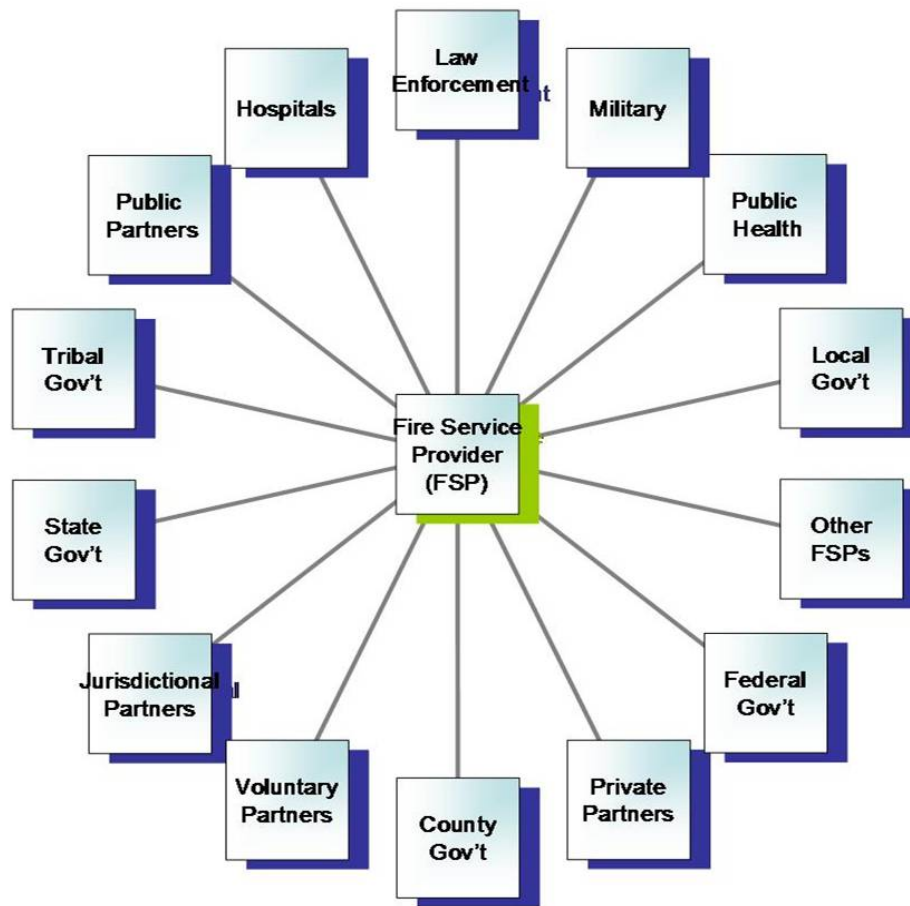


Figure 4. Megacommunity Model for FSPs

Large-scale challenges of unprecedented complexity—related to global and national security, economic well-being and the health and safety of citizens around the world—have increasingly become critical issues for leaders of governments, businesses and civil society institutions. Some of these issues have high global public profiles, such as climate change, cyber security, preparing for pandemics and terrorism (Gerencser et al., 2008, p. 29). On a smaller, more fire service specific scale, the FSP can focus on providing homeland security services to their specific jurisdiction which will in turn create a level of homeland security regionally and beyond.

The megacommunity's ideology can be a reflection of globalization. "Globalization means the concept of global village," said Kaifu Luo, Chairman and President of China National Foreign Trade Transportation Group. Reflecting on the rapid pace of China's economic growth, Luo underscores the importance of inclusiveness and shared development agenda. Luo continued, "Globalization is saying your development cannot be separate from mine," he states, "and my development should not be—and cannot be—separate from yours. We should be walking together" (Gerencser et al., 2008, p. 40).

If FSPs adopt this mindset and model and utilize them with the multitude of identified and unidentified partners, the FSPs can ensure success in their homeland security mission by achieving its goals and objectives utilizing its partners within the megacommunity sharing resources and ideologies. Additionally, FSPs can assist other members within the megacommunity realize their homeland security goals and objectives by sharing its resources and ideologies.

E. BLUE OCEAN STRATEGY

There is no substitute for effective leadership when it comes to planning. Strategic planning is simply a set of concepts, procedures and tools designed to help executives, managers and others think, act and learn strategically on behalf of their organizations and their organizations' stakeholders (Bryson, 2004, p. 297).

The *structuralist* view of strategy has its roots in industrial organization (IO) economics. The model of industrial organization analysis proposes a structure-conduct-performance paradigm, which suggests a casual flow from market structure to conduct and performance. Market structure, given by supply and demand conditions, shapes sellers and buyers conduct, which, in turn, determines end performance (Kim & Mauborgne, 2005, p. 209). The *reconstructionist* view of strategy, on the other hand, is built on the theory of endogenous growth. The theory traces back to Joseph A Schumpeter's initial observation that the forces that change economic structure and industry landscapes can come from within the system. Schumpeter argues that

innovation can happen endogenously and that their main source is the creative entrepreneur (Kim & Mauborgne, 2005, pp. 209–210).

In the context of the above, the concepts found in Bryson (2004), Kim/Mauborgne (2005) and to a certain extent, Brafman/Beckstrom (2006) in coordination with one another can be applied to the fire service and how it conducts strategy planning for day to day operations as well as to aid in developing short and long range planning strategies.

The traditional fire service delivery model deals with, for example, fire suppression, emergency medical services and hazardous materials response. In the ideal service delivery model, services and activities such as fire prevention, inspection and interagency exercising would be included in the new “holistic” fire service delivery model. With this in mind, it is necessary to consider the ideals mentioned previously in this document and apply it to the *Blue Ocean Strategy* presented by Kim and Mauborgne (2005).

As mentioned in the book by Kim and Mauborgne (2005), *Blue Ocean Strategy, How to Create Uncontested Market Space and Make the Competition Irrelevant*, there are red oceans and blue oceans. Red oceans represent all the industries in existence today. This is the known market space. Blue oceans denote all the industries not in existence today, or the unknown market space. Blue oceans are defined by untapped market space, demand creation and the opportunity for highly profitable growth. Although some blue oceans are created well beyond existing industry boundaries, most are created from within red oceans by expanding existing industry boundaries. In blue oceans, competition is irrelevant because the rules of the game are waiting to be set (Kim & Mauborgen, 2005, pp. 4–5).

It is necessary for the fire service to incorporate these basic concepts and integrate them into their preparation, planning, response and recovery practices. While the fire service has a traditional menu of services, it must expand those services to meet the ever-changing landscape of non-emergent and emergent service delivery. To break it down even further, the types of non-emergent and emergent service delivery. Within the

structuralist viewpoint, which can be considered the traditional role or menu of services, the fire service is very comfortable and competent in those efforts; it is in their wheelhouse so to speak. With the reconstructionist viewpoint, the endogenous growth, growth from within, can serve as a catalyst for expanding the role and responsibility of the fire service within the homeland security discipline. As the fire service evolved from fire suppression only to the all-hazards response approach it practices today, it experienced endogenous growth via service delivery models and currently exists in a blue ocean as the fire service operates well beyond its existing boundaries each and every day by providing varying services to various customer bases while including many different service partners.

It is important, however to monitor the catalyst mentality when implementing new strategies. Whenever we've encountered a catalyst, we have found ourselves drawn in; it's hard not to be (Brafman & Beckstrom, 2006, p. 110). As a catalyst, it is all about letting go and trusting the community (Brafman & Beckstrom, 2006, p. 110). While this may serve well in the initial stages of developing blue oceans strategies, it can become very distracting and even counter productive if catalysts are not monitored to ensure the specific entity's values, goals and objectives are in alignment with what is being accomplished. More importantly, it must be ensured the best interests of the customers of the entity are in alignment with those same accomplishments.

The Figure 5 demonstrates the vision and the differences between the red ocean strategy versus the blue ocean strategy as related to the fire service delivery model.

A Holistic Approach to Homeland Security

<u>Eliminate</u> Traditional FS Cultural Mindset Traditional Srvc Delivery Expectations	<u>Raise</u> Institutional Awareness Public Awareness Partnership Collaboration Institutional Collaboration Political Awareness
<u>Reduce</u> Service Duplication	<u>Create</u> Collaborative Planning Models Collaborative Response Models Institutionalization Forecasting Partnering Relationships Jurisdictional Security/Awareness

Notes:

Red Ocean Strategy = Traditional Fire Service Delivery

Blue Ocean Strategy = Expanded "Holistic" Fire Service Delivery

Application of Blue Ocean Strategy Principals:

- | | |
|------------------------------------|---|
| 1. Reconstruct Market Boundaries | -Community Outreach |
| 2. Focus on the Big Picture | -Jurisdictional Security/Awareness |
| 3. Reach Beyond Existing Demand | -Dynamic Budgeting |
| 4. Get Strategic Sequence Right | -Collaborative Planning/Response Modeling |
| 5. Overcome Organizational Hurdles | -Cultural Awareness |
| 6. Build Execution Into Strategy | -Interagency Exercising |

Strategy Canvas: The Fire Service's Approach to Homeland Security

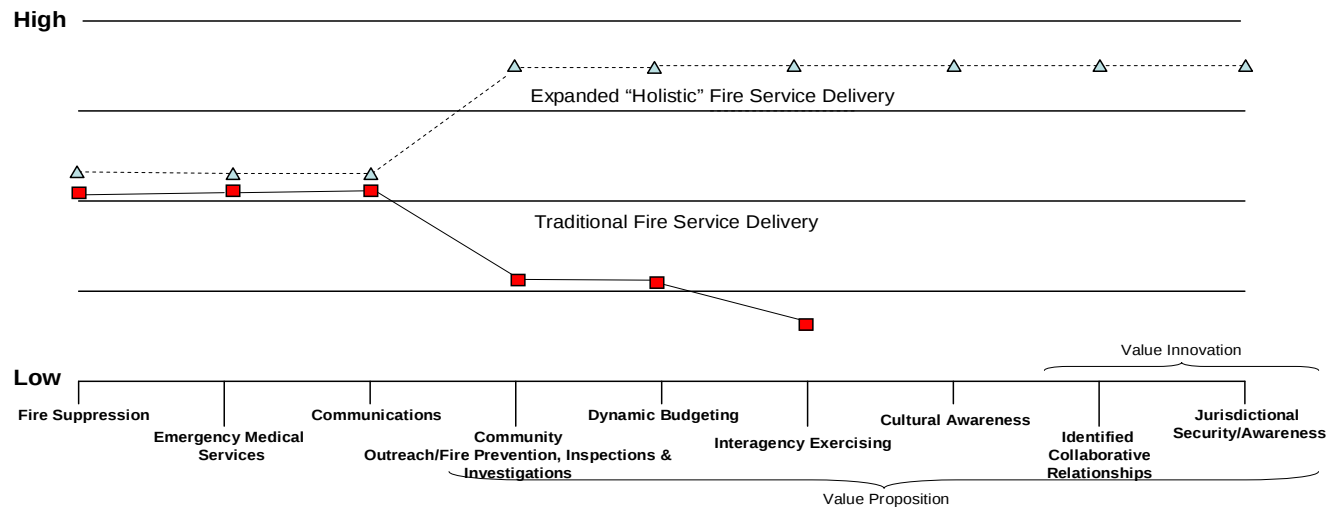


Figure 5. A Holistic Approach to Homeland Security

While this proposal is only a concept created from information collected from a limited sampling of fire service providers, this author believes that it is a realistic representation of where the fire service currently is to where it could potentially grow and expand to. There are countless opportunities for FSPs throughout this country to expand their services by partnering and collaborating with an endless number of public and private partners.

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VII. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY AND RECOMMENDATIONS

Many FSPs do not adequately address homeland security internally or jurisdictionally. Current roles and responsibilities of most FSPs appear to be broad and vague as there are no overall adopted best practices for developing homeland security response procedures and/or practices. Initially two questions were focused on:

1. What will a homeland security strategy/model for the fire service consist of at the national, regional and local levels?
2. Which homeland security policies should the fire service develop?

The intent was to answer these two questions by developing an all-encompassing document or template for any FSP to develop and administer new strategies, models and policies to address homeland security issues regardless of size, type of jurisdiction served, geographic location, jurisdictional target threat assessments, budgetary resources and staffing.

B. RESEARCH FINDINGS

Research identified that in order to develop strategies, models and policies that lead to defining roles and responsibilities of the fire service within homeland security, the following findings should be considered. It is impossible to create an all-encompassing homeland security strategy, model and policy for FSPs to address and prepare for homeland security events.

1. Doctrine and organizational culture are vital components to ensure effective and efficient homeland security efforts.
2. Planning and preparedness are vital components to ensure effective and efficient homeland security efforts.
3. Resourcing, training and exercising are vital components to ensure effective and efficient homeland security efforts.

4. Identification of internal and external partners is a vital component to ensure effective and efficient homeland security efforts.

C. RECOMMENDATIONS

Based on the findings that doctrine and organizational culture, planning and preparedness, resourcing, training, exercising and the inclusion of both internal and external partners are necessary to define the roles and responsibilities within homeland security, the recommendations that follow need to be considered.

1. Entity Specific

FSPs must develop entity specific strategies, models and policies based upon the unique characteristics of the entity itself and the jurisdictions they serve. Each FSP and jurisdiction has unique characteristics that must be addressed. If there are not sufficient internal resources, it must look externally to secure appropriate resources. While it is impossible to create all-encompassing strategies, models and policies for FSPs to address and prepare for homeland security events, it is possible to initiate awareness for the need to address homeland security within and beyond jurisdictional boundaries and with traditional and non-traditional partners as evident by the FDNY and the LFB (the two case study FSPs).

2. Internal Culture

FSPs must develop and cultivate a culture or doctrine that recognizes homeland security as a necessary cultural component across an entire organization from including the lower levels of operations as well as the upper levels of policy makers. The literature presented in the two case studies demonstrates successes and acknowledgements of shortcomings based upon a past recognition of homeland security and the presence of a homeland security culture. It is vital to cultivate and implement homeland security practices and procedures to ensure that the homeland security discipline becomes a recognized component of the AFS. By doing so, the success of a homeland security doctrine can be measured by recognizing the number of informed and appropriately trained fire service personnel and citizens.

3. Planning and Preparedness

FSPs must ensure that planning and preparedness efforts address homeland security issues and events. An internal look at resource availability and capabilities must occur to ensure those efforts are current, up to date, realistic and aligned with expectations of internal and external policy makers as well as constituents served by the FSP. If any gaps between assets and capabilities are discovered, securing of necessary assets from various partners of the specific FSP is warranted. Once these efforts are addressed then contingency planning can be initiated to address unfulfilled gaps via justification of increasing or improving various resources such as staffing, equipment, partnerships and infrastructure that will, in-turn, justify exercising and training.

4. Resourcing

FSPs must evaluate assets available to them and determine if they are appropriate and sufficient. As previously stated, not all FSPs share the same abundance of resources as the FDNY or LFB but response expectations and responsibilities can be similar of smaller FSPs and must be accomplished regardless of staffing and resources, even at a proportionately smaller scale. With these issues in mind, it is necessary to train and exercise with the various internal and external partners identified in the planning and preparedness process to identify potential deficiencies in resourcing efforts, planning and preparedness efforts and in contingency planning. Any of these potential deficiencies can be identified and corrected in controlled training environments whether they are practical exercises or table-top exercises.

5. Holistic Approach

FSPs must proceed to develop a megacommunity approach to homeland security. Utilizing the various partnerships identified previously and those potential partners yet to be identified can result in the availability of a wide range of resources that will aid the FSP when addressing homeland security. It must be acknowledged that the majority of smaller suburban and rural FSPs may not have sufficient resources in relation to staffing levels, equipment, financial resources and pre-arranged partnership agreements.

Therefore, it is important for these smaller FSPs to collaborate with neighboring jurisdictions and identify non-traditional partners who can contribute resources necessary to accomplish the objective of providing homeland security.

The megacommunity approach allows each FSP to create a unique megacommunity model that will complement assets readily available internally and to augment short-comings and close resource gaps identified by the wide range of the larger more diverse megacommunity. By considering the blue ocean strategy concept, FSPs will be able to raise institutional, political and public awareness as well as raising collaboration with various partners internally as well as throughout the megacommunity model. The holistic approach will also afford the FSP to create collaborative planning and response models which assists in solidifying partnerships. Over time, this approach, along with these components, will become imbedded with the FSP thereby creating a homeland security culture that contributes to jurisdictional homeland security.

D. CONCLUSION

While it is difficult to measure success in the prevention of terrorist attacks or other homeland security events, it is necessary to cultivate and implement homeland security practices and procedures to ensure the homeland security discipline becomes a recognized component of FSPs throughout the AFS. Doing so will ensure that FSPs are well prepared, equipped and trained to respond to homeland security events in a manner that will ensure their safety and the safety of others while addressing the homeland security event ensuring incident stabilization, securing of critical infrastructure and initiate a timely recovery.

It is impossible to create an all-encompassing document or template for FSPs to address and prepare for homeland security; it is possible however to initiate awareness for the need to address homeland security within and beyond jurisdictional boundaries and with traditional and non-traditional partners. Because each FSP is as unique as the jurisdiction they serve and resource availability varies greatly, it is impossible to expect FSPs to deal with homeland security events in the same exact manner with the same exact resources. It can be expected that FSPs will have the same ability as one another to

create partnerships, plan and prepare, train and exercise and secure additional resources to ensure adequate, effective, efficient service delivery while providing homeland security services.

It is the author's hope and intentions are to offer this thesis as a step for others to advance the effort in ensuring the AFS is an integral part of the homeland security efforts of their respective jurisdictions which will lead to a broader, all-encompassing holistic effort towards providing homeland security locally, regionally and nationally.

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APPENDIX. DEFINITIONS

discipline (dis'ə-plən) *n.* **1.** Training that is expected to produce a specific character or pattern of behavior, esp. training that produces moral or mental improvement. **2.** Controlled behavior resulting from disciplinary training. **3.** A systematic method to obtain obedience: *a military discipline*. **4.** A state of order based upon submission to rules and authority. **5.** Punishment intended to correct or train. **6.** A set of rules or methods, as those regulating the practice of a church or monastic order. **7.** A branch of knowledge or of teaching. (American Heritage Dictionary, 1982, p. 402)

doctrine (däk-trən) *n.* **1.** Something that is taught. **2.** A principle or body of principles presented or for acceptance or belief, as by a religious, political, scientific, or philosophic group; dogma. **3.** A rule or principle of law, esp. when established by a precedent. **4.** A statement of official government policy, esp. in foreign affairs. (American Heritage Dictionary, 1982, p. 414)

holistic (hō-lis-tik) *adj.* **1.** Of or pertaining to holism. **2. a.** Emphasizing the importance of the whole and the interdependence of its parts. **b.** Concerned with wholes rather than analysis or dissection into parts: *holistic medicine; holistic ecology*. – **holis'ti-cal-ly** *adv.* (American Heritage Dictionary, 1982, p. 617)

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