

**REGIONAL EMERGENCY RESPONSE TEAMS:
CASE STUDIES IN HAMPTON ROADS, VIRGINIA**

by

Thomas E. Poulin
M.S., 1996, Troy State University
B.A., 1988, Saint Leo College
A.A.S., 1984, Tidewater Community College
A.A., 1979, Prince George's Community College

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

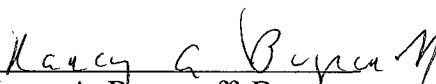
DOCTOR OF PHILOSOPHY

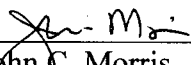
PUBLIC ADMINISTRATION AND URBAN POLICY

OLD DOMINION UNIVERSITY


May 2009

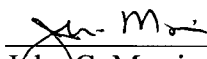
Reviewed by:

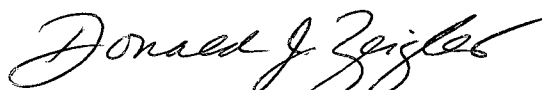

Nancy A. Bagranoff, Dean
College of Business and
Public Administration


John C. Morris
Graduate Program Director
Department of Public Administration
and Urban Policy

Approved by:


William M. Leavitt (Director)


John C. Morris (Member)


Donald J. Zeigler, Member

UMI Number: 3357395

Copyright 2009 by
Poulin, Thomas E.

All rights reserved

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.



UMI Microform 3357395
Copyright 2009 by ProQuest LLC
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

ABSTRACT

REGIONAL EMERGENCY RESPONSE TEAMS: CASE STUDIES IN HAMPTON ROADS, VIRGINIA

Thomas E. Poulin
Old Dominion University, 2009
Director: Dr. William M. Leavitt

The majority of local governments lack sufficient resources to respond effectively in an independent manner to a disaster or large-scale emergency. To achieve success, they must work closely with other organizations. The research problem is that regional emergency response relationships are not well understood, which could lead to ineffective or inefficient practices. The research purpose was to describe and analyze regional emergency response in Hampton Roads, Virginia. The research methodology involved a qualitative approach, utilizing interviews and archival research. Organizational leaders of the Hampton Roads Marine Incident Response Team and the Southside Tidewater Regional Hazardous Materials Response Team were interviewed to solicit their perspectives on the manner in which leadership, management and the environment influenced the development and sustenance of regional emergency response teams. Additionally, foundational documents for each team were studied to assess their influence on team administration. The research was based on collaboration theory. A research model identified as the model of regional emergency response was developed from the literature and used as a framework for the study. The findings suggest that regional emergency response teams may take very varied forms, customized to meet individual programmatic needs. These teams may be collaborative in nature, but are more likely to exhibit mixed characteristics, including those associated with coordination or

cooperation. In contrast to collaborative endeavors associated with economic development, health care and education, which require the active engagement of the top tiers of an organization, regional emergency teams such as those studied here appear to be developed and operated at much lower levels of an organization, supported, only when needed, by the formal leadership of an organization. The findings also suggested there were four pre-conditions necessary for the development of regional emergency response teams structured to share resources, including the existence of a clear goal, the integration of cost-sharing mechanisms, strong support from individual organizations, and a strict focus on the strategic vision. The findings of this research may be used to encourage or facilitate the development of regional emergency response, thereby making regions better prepared for emergency incidents.

Copyright, 2009, by Thomas E. Poulin. All Rights Reserved.

This work is dedicated to my parents, Norman and Della Poulin, who always encouraged their children, by word and example, to continue learning, and to my wife, Linda, and our children, Samantha and Emily, who have continued to support me by putting up with my nonsense over the years.

ACKNOWLEDGEMENTS

The outcome of any academic endeavor is the co-production of many players so there are many people to thank.

I wish to express my appreciation to my dissertation committee, which included Dr. William Leavitt (chair), Dr. John Morris and Dr. Donald Ziegler. Without their support and guidance, this work may never have been completed. Although he retired before my dissertation was completed, I wish to also express my appreciation to Dr. Leonard Ruchelman who served as my chair during much of the initial phases of this work.

I wish to thank Dr. Berhanu Mengistu who, in offering me the opportunity to serve as his graduate research assistant, sharing with me the chance to serve as an editorial assistant on several journals and a proceeding, and showing me what could be done if one never rested, gave me the chance to change an avocation into a vocation, which might otherwise never have happened.

I wish to thank Dr. Maurice Berube, my cognate advisor in educational leadership. His passion for teaching, his encyclopedic knowledge, and his ability to consistently share a critical perspective of his field without seeming negative helped to illuminate a fascinating subject, and will help me explore other fascinating subjects in the years to come.

I wish to thank Dr. John Lombard, whose class on research methods helped me to hone an ability to think critically about my own work. His meticulous attention to detail is astounding and enviable.

I wish to thank Dr. Roger Richman, whose class on urban law and public policy increased my appreciation of the value of laws and the rule-making process on everything done by public administrators.

I wish to thank Professor Yakob Haile-Mariam, formerly of Norfolk State University, whose steadfast dedication to the democratic process in his homeland of Ethiopia should serve as a model for civic engagement for people around the world.

I wish to thank, posthumously, Dr. Elizabeth Vogel, whom I worked with as a graduate research assistant for several years. Her enthusiasm, motivation and creativity helped all around her to cope with anything and everything. Her untimely, tragic death wounded all who knew her. And, although all scars heal, perhaps there will be a small scar that will linger to help us think of her now and again.

I wish to thank program managers Meghan Jones and Marjorie Wills, and all of the graduate assistants and graduate research assistants who have come and gone over the past few years, for all of the assistance they have offered, as well as for listening to all my endless stories.

Last, but certainly not least, I wish to thank Dr. Pamela Gibson, who, aside from any other support and guidance, when I thought the dissertation would and could never end, patiently beat it into my head that I could do it. Thanks.

TABLE OF CONTENTS

ABSTRACT.....	ii
DEDICATION.....	v
ACKNOWLEDGEMENTS.....	vi
LIST OF TABLES.....	x
LIST OF FIGURES.....	xi
LIST OF APPENDICES.....	xii

Chapter	Page
I. INTRODUCTION.....	1
BACKGROUND.....	1
PROBLEM STATEMENT.....	7
RESEARCH PURPOSE.....	7
THEORETICAL FRAMEWORK.....	8
RESEARCH QUESTIONS.....	9
METHODOLOGY.....	11
SIGNIFICANCE.....	12
II. REVIEW OF SELECTED LITERATURE.....	16
INTRODUCTION.....	16
COLLABORATION-COMPETITION CONTINUUM.....	16
DISTINCTIONS BETWEEN LEADERSHIP AND MANAGEMENT.....	20
MANAGEMENT FUNCTIONS.....	23
LEADERSHIP.....	25
COLLABORATION.....	29
INTER-ORGANIZATIONAL COLLABORATION.....	34
MODEL OF REGIONAL EMERGENCY RESPONSE.....	48
SYSTEMS THEORY.....	53
ASSUMPTIONS OF THE RESEARCH MODEL.....	54
CONCLUSIONS.....	54
III. METHODOLOGY.....	56
INTRODUCTION.....	56
RESEARCH DESIGN.....	56
POPULATION AND SAMPLE SELECTION.....	56
CONFIDENTIALITY.....	60
DATA COLLECTION.....	61
DATA ANALYSIS.....	69
COLLABORATION-COMPETITION CONTINUUM.....	71
PILOT TEST.....	73

Chapter	Page
VALIDATION.....	74
LIMITATIONS.....	74
POTENTIAL RESEARCHER BIAS.....	76
IV. FINDINGS AND DISCUSSION.....	77
INTRODUCTION.....	77
OVERVIEW OF REGIONAL EMERGENCY RESPONSE TEAMS.....	80
ARCHIVAL RESEARCH.....	84
RESPONSE TABULATION.....	85
SECONDARY RESEARCH QUESTIONS.....	87
SECONDARY RESEARCH QUESTION ONE.....	88
SECONDARY RESEARCH QUESTION TWO.....	103
SECONDARY RESEARCH QUESTION THREE.....	128
SECONDARY RESEARCH QUESTION FOUR.....	135
SECONDARY RESEARCH QUESTION FIVE.....	140
SECONDARY RESEARCH QUESTION SIX	144
COLLABORATION-COMPETITION CONTINUUM.....	156
PRIMARY RESEARCH QUESTIONS.....	161
PRIMARY RESEARCH QUESTION ONE.....	163
PRIMARY RESEARCH QUESTION TWO.....	165
PRIMARY RESEARCH QUESTION THREE.....	168
V. CONCLUSIONS AND RECOMMENDATIONS.....	171
INTRODUCTION.....	171
SUMMARY OF RESEARCH.....	171
FINDINGS.....	174
CONTRIBUTIONS OF THE RESEARCH.....	178
LIMITATIONS OF THE RESEARCH.....	185
POTENTIAL RESEARCHER BIAS.....	186
RECOMMENDATIONS FOR DEVELOPING REGIONAL EMERGENCY RESPONSE TEAMS.....	186
RECOMMENDATIONS FOR FUTURE RESEARCH.....	188
REFERENCES.....	193
APPENDICES.....	206
VITA.....	213

LIST OF TABLES

Table	Page
1.1 Selected regional emergency response teams in Hampton Roads, VA.....	4
3.1 Hampton Roads communities.....	57
3.2 Relationship between concepts, variables and operationalization.....	65
4.1 Organizational components of collaborative endeavors studied.....	78
4.2 Documents in archival research.....	82
4.3 Selected responses related to leadership.....	89
4.4 Selected responses related to management.....	104
4.5 Selected responses related to individual organization empowerment.....	129
4.6 Selected responses related to social ties.....	136
4.7 Selected responses related to synergy.....	140
4.8 Selected responses related to environment.....	145
4.9 Comparison of collaboration-competition continuum characteristics.....	161
4.10 Thematic map of relationships between primary and secondary research questions.....	163
5.1 Recommendations for developing regional emergency response teams...	187

LIST OF FIGURES

Figure	Page
1.1 Emergency management model.....	5
1.2 Model of regional emergency response.....	9
2.1 Collaboration-competition continuum.....	18
2.2 Interpersonal relationships based on trust and issue agreement.....	19
2.3 Model of inter-organizational collaboration.....	45
2.4 Model of regional emergency response.....	49
3.1 Collaboration-competition continuum.....	72
4.1 HRMIRT organization.....	112
4.2 STRHMRT organization.....	115
4.3 Collaboration-competition continuum.....	157

LIST OF APPENDICES

Appendix	Page
A Interview instrument.....	206
B Thematic map for data reduction.....	212

CHAPTER I

INTRODUCTION

Background

The consequences of a disaster are diverse, including such critical challenges as hazardous materials' releases, collapsed structures and mass casualties (Auf der heide, 1989; Comfort, 2002). Local governments typically do not have sufficient emergency response capacity to effectively respond to the consequences of a natural or manmade disaster without significant external aid. Consequently, local governments temporarily require not only staffing and equipment above their existing complement to address the consequences of such emergency events, but often highly specialized response assets to address the technical challenges presented, which many lack (Congressional Research Service, 2006; Forsman, 2002; Loflin & Saunders, 2002). Illustrative of this, in a survey of local communities the United States' Fire Administration (2006) reported that only 12 percent of local fire departments had sufficient resources to effectively respond to a hazardous materials incident with ten injuries without significant aid, but only 30 percent had written agreements to acquire such assistance. In the same survey, only 11 percent of local fire departments reported having sufficient response capacity to effectively respond independently to a structural collapse with fifty trapped occupants, but only 26 percent had written agreements to acquire necessary resources. This is not to suggest localities lacking written agreements are unable to acquire assistance, but without a prior relationship, the assistance may be delayed and difficult to integrate into local operations.

While the report suggests larger localities were frequently better prepared than smaller ones, it is clear many areas of the nation are ill equipped to respond effectively without an expanded emergency response capacity. The conundrum for government leaders has been how to expand the emergency response capacity of local governments in an environment where the local political landscape is horizontally fragmented, the responsibility for response to a disaster is vertically fragmented, and fiscal resources are limited (American Bar Association, 2006; Basalo, 2003; Kettl, 2006; Rudman et al., 2003; Waugh & Sylves, 1996). To achieve higher levels of readiness for disaster, it has become clear governments must work together to achieve their aims of increased preparedness in what Agranoff & McGuire (2003, vii) have referred to as the “era of cross-boundary interdependency.” Rationally, the report suggests an expanded emergency response capacity may be acquired through pre-existing inter-organizational relationships with other agencies, public and private, but implies such agreements are often lacking.

State and Federal emergency response teams prepared for specialized response may exist, but their response times are likely to be lengthy, which may negatively impact initial response efforts (United States General Accounting Office, 2001). The costs of developing such assets in-house can be politically and managerially prohibitive, especially when considering the relatively insignificant probability that a specific locality will be struck by a disaster, which may create a false sense of security (Cigler, 1988; Clarke, 1999; Duncan 1995). Additionally, according to Denis Onieal, Superintendent of the United States’ National Fire Academy (personal communication, January 20, 2006), the costs of sustaining such assets over time may be daunting, as requisite supplies and

training may be perishable, requiring frequent supply replenishment and additional employee training programs. To expand local emergency response capacity with a minimal investment of staffing and resources, many local governments have engaged in regional emergency response, in relationships that have been referred to as collaboration by many authors (Defense's Office, 2005; Forsman, 2002; Kamarck, 2004; Loflin & Saunders, 2002; Winston et al., 2006).

Kamensky et al. (2004) categorized collaborative relationships as either networks or partnerships, with the former being informal understandings between individuals or organizations and the latter being more structured relationships. Within this construct, collaborative networks are largely based upon interpersonal relationships and permit the flow of assistance in both directions with little in the form of documentation, regulation or formal structure. Conversely, collaborative partnerships are characterized by a more formal structure, often being accompanied by a written document clarifying roles and responsibilities. Both forms of collaborative relationships have been developed to support regional emergency response. Such regional relationships focus on increasing emergency response capacity at the local level, while sharing costs and resources with other partners within the complex intergovernmental, inter-organizational and inter-sectoral environment of modern public administration.

Within the emergency management community, regional emergency response may take several forms. As previously noted, Kamensky et al. (2004) suggests they may be broadly categorized as informal or formal, which they refer to as networks or partnerships. There are differing forms of informal and formal relationships associated with regional emergency response. They include mutual aid, which is characterized by

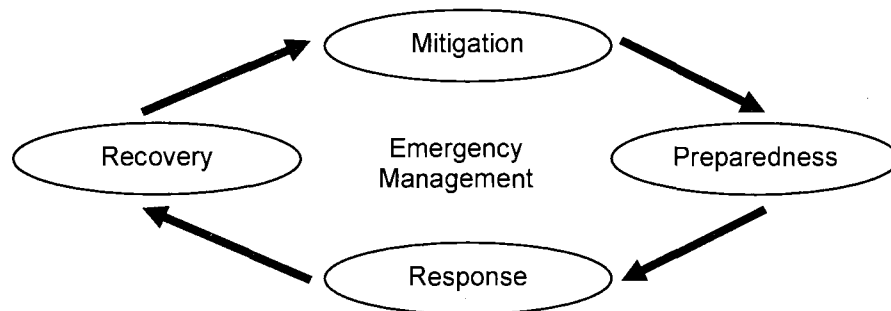
resource sharing between neighboring jurisdictions (Forsman, 2002). Mutual aid agreements are often used to support day-to-day operations for public emergency response organizations. Memoranda-of-understanding are used between organizations to clarify roles and responsibilities when coordination of agencies with shared jurisdiction is a concern, though they are usually not legally binding (Sylves, 2007). Contracts are used to provide a legal framework for providing assistance and are often present when dealing with the private sector or when the regional emergency response endeavor creates a potential liability, such as with hazardous materials response (Nicholson, 2002; Schneid, 1995). Regional emergency response teams created for the purpose of sharing personnel and equipment provide a means for local organizations to band together to enhance emergency response capacity without shouldering the entire burden. This latter form, the regional emergency response endeavor characterized by a specialty response team, was the focus of this study. Some examples of such regional emergency response teams developed for disaster response in Hampton Roads are identified in table 1.1. The regional emergency response teams noted in table 1.1 all have some form of foundational documents that formalize the relationship, suggesting they are partnerships within the typology of Kamensky et al. (2004).

Table 1.1: Selected Regional Emergency Response Teams in Hampton Roads, VA

FEMA Disaster Medical Assistance Team, Virginia Task Force 1
FEMA Urban Search and Rescue, Virginia Task Force 2
Hampton Roads Maritime Incident Response Team
Hampton Roads Metropolitan Medical Strike Team
Peninsula Hazardous Materials Regional Response Team
Southside Tidewater Regional Hazardous Materials Response Team
Tidewater Regional Technical Rescue Team

The research was undertaken in the Hampton Roads region of Virginia because the presence of numerous regional emergency response teams made it a probable source for fruitful research in regional emergency response, and because of its convenience to the researcher. Hampton Roads lies in the southeast corner of Virginia. It is comprised of sixteen cities and counties, covering more than 2,900 square miles of land, housing a population in excess of 1.5 million. It is home to one of the largest ports in the United States, boasts a diverse economy, houses a thriving tourist industry, and is home to numerous military bases. It is bordered on the east by the Atlantic Ocean, on the south by North Carolina, and on the north and west by rural counties. Because of its characteristics, like many metropolitan areas across the nation, effective governance is largely dependent on the ability of governments to function collaboratively. This includes their collective ability to provide effective emergency management in the region.

Figure 1.1: Emergency Management Model



The all-hazards model of emergency management is an approach for protecting communities from the consequences of disaster (see figure 1.1). The model is comprised of four interdependent phases: mitigation; preparedness; response; and, recovery (Canton, 2007; Waugh, 2000). The model presumes that an effective response to any hazard requires each phase be addressed, but one or more phases may be absent in an event.

Illustrative of this, it is feasible that effective mitigation could negate the impact of a disaster, eliminating the need for response or recovery. Additionally, it is possible to recover when mitigation and preparedness are absent, though the process may take longer and be less efficient.

The mitigation phase is comprised of those efforts used to prevent or limit the consequences of a disaster. Examples of mitigation activities include enhanced building codes to construct buildings resistant to earthquake tremors or hurricane-force winds or regulating land use to limit construction in flood prone areas. Preparedness activities are those pursuits focused on readying the community to respond to the consequences of disaster that cannot be eliminated or controlled. Examples of preparedness activities include emergency planning, employee training, equipment acquisition, and disaster exercises. Response activities refer to those actions undertaken immediately before, during and after the impact of a disaster. This would include such activities as sandbagging flood-prone areas, treating and transporting injured people, and controlling hazardous materials releases. The final phase, recovery, is comprised of those activities designed to return the community to a state of normality. This includes clearing debris, restoring the infrastructure, and rebuilding homes and businesses. While each part of emergency management is a distinct phase, each overlaps the other in a cyclic fashion.

While comprised of discreetly differing activities, they are interdependent. This research focused on the preparation phase, specifically the development, training, equipping, and deployment plans of regional emergency response teams created to deal with a specific type of hazard or to work within a specific type of hazardous environs.

Problem Statement

Regional emergency response teams are often referred to as collaboration. The research problem is that collaboration in regional emergency response relationships is not well understood. Agranoff (2001), Agranoff & McGuire (2003), McGuire, 2006; and Lasker & Weiss (2003) noted that much of what is known of collaboration is normative or anecdotal, which could contribute to interested organizations experiencing difficulties in creating and sustaining regional emergency response systems, which could negatively impact their ability to respond effectively and efficiently to a disaster.

Research Purpose

The purpose of this research was to describe and analyze regional emergency response in Hampton Roads, Virginia. The findings of the research are not based on anecdotes, but on a systemic, qualitative approach to better understanding each regional emergency response team. The findings of the research may be used to encourage and facilitate the development of regional emergency response, consequently making the region better prepared for emergency incidents of a magnitude greater than any single jurisdiction may handle independently.

Additionally, Loflin & Saunders (2002) noted regional emergency response relationships are typically designed to facilitate resource sharing. Agranoff & McGuire (2003) found resource sharing was one of the least used forms of collaboration in intergovernmental management, which has far more often been associated with activities related to policy development and program coordination. Consequently, the research shall

served to expand the body of knowledge by addressing a previously identified gap in the literature.

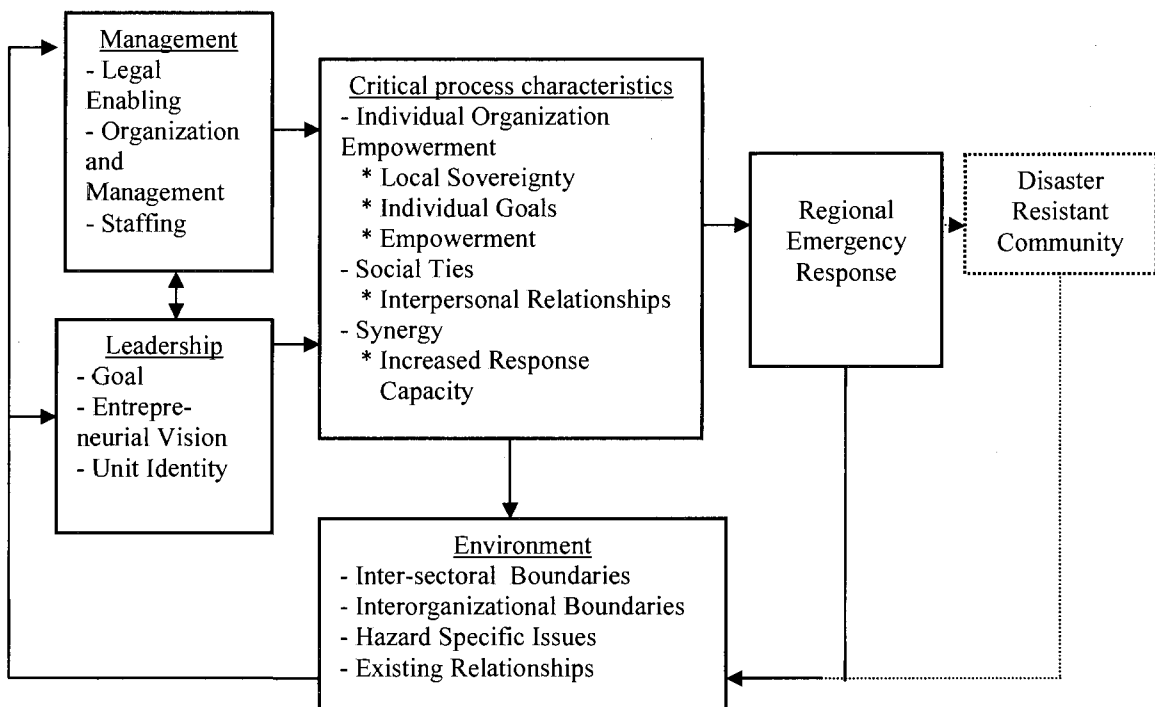
The research also involved the test of a modified version of an existing model of intergovernmental collaboration, as explained in the theoretical framework. Therefore the research supported the development of a new means for exploring and analyzing other regional emergency response endeavors.

Theoretical Framework

The theoretical framework used for this study involved a modified version of the model of inter-organizational collaboration developed by Lasker & Weiss (2003), which they devised to study inter-organizational collaboration in community health. The modified model, which is titled the model of regional emergency response, uses systems theory to understand the phenomena (see figure 1.2). The model of regional emergency response posits leadership and management functions combine to influence the development of critical process characteristics of the inter-organizational process. These three critical process characteristics include the recognition and support of the needs of individual organizations member to the regional venture, the recognition that inter-organizational relationships are reflective of the social ties of individuals within each organization, and the synergistic effects of regional emergency response endeavors. The model posits that when these are present, they support the development and sustenance of regional emergency response, which supports the development of a disaster resistant community.

The outcome portion of this model, the existence of a disaster resistant community, was not tested in the research. Because the outcome portion was not studied, the feedback loop leading from it was also not explored. The portions of the model that were not explored in this study are identified by the use of broken lines within the model in figure 1.2. The model will be discussed in greater detail in Chapter II.

Figure 1.2: Model of Regional Emergency Response



(Lasker & Weiss, 2003, as modified by T.E. Poulin)

Research Questions

The research focused on local governments, specifically on local government organizations engaged in such regional emergency response ventures as noted in table

1.1. The primary research questions were:

1. Why do local governments engage in regional emergency response?

2. How do local governments structure regional emergency response relationships to address the concerns of both the individual organizations and those of the community of organizations banded together?
3. Were there pre-existing conditions that supported the development of regional emergency response and, if so, what were they?

The first primary research question sought to determine what factors were taken into consideration when an organization elected to engage in regional emergency response. Based on the relevant literature, this should have included issues such as perceived need and cost-sharing goals. Rationally, this suggested the research would also identify factors that were perceived to be barriers to regional emergency response, including liability issues and a lack of interpersonal ties. The second primary question concerned the formal and informal means by which local governments structure regional emergency response relationships, which the literature suggested should have included issues such as individual needs, command and control issues, training, equipment interoperability, and service equity. The third primary research question supported the testing of that portion of the model that suggested there are three critical process characteristics of the development of regional emergency response.

The secondary research questions addressed specific issues related to the model, which supported the development of answers to the primary research questions. Consequently, based on the model, the secondary research questions were:

1. How was leadership perceived to impact regional emergency response?
2. How was management perceived to impact regional emergency response?

3. How was individual organizational empowerment perceived to impact regional emergency response?
4. How were social ties perceived to impact regional emergency response?
5. How was synergy perceived to impact regional emergency response?
6. How was the environment perceived to impact regional emergency response?

Methodology

The proposed research sought to elicit and understand the perspectives of organizational leaders towards regional emergency response. The theoretical framework examined the phenomenon of regional emergency response using a qualitative approach, which included soliciting the perspectives of organizational leaders, supported with an analysis of relevant archival documents. Qualitative research is well suited to exploring phenomena through the perspectives of individuals, as well as to confirm existing theories (Cresswell 2003; Huberman & Miles, 1998; Yin 1994). Consequently, a qualitative research design for data collection and analysis was appropriate (Creswell, 2003).

The research was conducted in Hampton Roads because of the presence of regional emergency response ventures that provided a rich vein of information for the researcher, as well as for the convenience of the location to the researcher. The research involved a two-pronged approach towards data collection. The primary data collection method was semi-structured interviews of organizational officials from participating agencies to elicit their opinions towards various facets of regional emergency response. Such an approach was well suited to the collecting of data in an emergent manner,

permitting the researcher to explore new avenues of inquiry opened up by participant responses (Adler & Frey, 1998; Creswell, 2003). The second data collection method involved the collecting of regional emergency response agreements, when they were both present and available, facilitating an analysis of content.

The data collected was subjected to data reduction, as described by Miles & Huberman (1994), using an interpretivist approach suggested by the theoretical model. Based on the proposed theoretical framework, the data was be reduced into various categories, including leadership roles, management functions, individual empowerment, social ties, synergy, collaborative and the environment. This permitted a more structured analysis and interpretation of the materials collected, as well providing a means for organizing the information for later presentation (Miles & Huberman, 1994). As the proposed research was qualitative in nature, focusing on individual perceptions, a qualitative approach to analysis was most appropriate. According to Cresswell (2003), an interpretivist approach is the best means for identifying general themes and facilitating the analysis of a broad range of collected materials. The research methodology is described in greater detail in Chapter III.

Significance

Regional emergency response presents public administrators with a viable means of expanding emergency response capacity without significant expenditure of staff, funds or equipment, thereby aiding in the closure of identified service gaps. By developing a greater understanding of the creation and organization of these relationships, the research supports efforts by public administrators to use regional approaches within their own

jurisdictions. This should contribute to higher levels of protection from the consequences of disaster, consequently increasing the overall safety and well being of the populace. Effective regional emergency response may also serve as an impetus for the development of additional inter-organizational relationships, including ones not associated with emergency response (Lindstrom, 1998; Perroni, 1991).

As previously noted, regional emergency response teams are often referred to as collaborative. Many authors, including Agranoff (2001), Agranoff & McGuire (2003), Lasker & Weiss (2003), McGuire (2006), O'Toole (1997) and Wallis (1994) have suggested collaboration is better known anecdotally for its potential benefits than through empirical studies, noting a need to better understand the phenomena, especially within the federal system of government. Research on inter-organizational collaboration is rife with examples of relationships of policymakers and how that influences policy and the coordination of efforts, but less so with information on collaborative relationships engaged in sharing resources, which is largely unknown (Kettl, 2002; Agranoff & McGuire, 2003).

Agranoff (1986; 2001) noted that many authors researching programs focused on the differing roles and responsibilities of differing governmental entities in terms of intergovernmental relations, as opposed to from a pragmatic, ad hoc approach on making such programs work. Agranoff (1986) referred to this latter perspective as intergovernmental management, positing that public administrators below the policy level should be more concerned with making programs managerially functional within the existing environment, as opposed to seeking to change the environment. Lasker & Weiss (2003) wrote that inter-organizational collaboration is poorly understood, partly because

it is known by many names and has not been studied consistently. Consequently, this research will contribute to the overall body of knowledge associated with inter-organizational collaboration by partially addressing previously identified gaps in the research.

Many authors, including Gans & Horton (1975), Hagebak (1989), and Agranoff & McGuire (2003) have studied inter-organizational collaboration in terms of the policy creation and coordination associated with human services and economic development, but Agranoff & McGuire (2003) noted that one of the least utilized forms of collaborative activity among governmental actors is resource sharing. Regional emergency response is, primarily, a resource sharing mechanism, wherein those engaged in the relationship share personnel, equipment, training and other resources either to attain a common goal or to bolster the resources of an individual participant so they may effectively handle an emergency incident that impacts a single locality. An example of the former would be a large-scale disaster striking a metropolitan area, impacting multiple jurisdictions across geopolitical lines or geographic barriers, where no single jurisdiction is responsible for the event. An example of the latter would be a serious emergency in a smaller or more rural community where existing resources are comparatively limited in relation to larger communities. In such instances, while a larger community could effectively address the emergency with available resources, a smaller or more rural community might need substantive aid.

Even authors associated with emergency management literature, including Kiefer & Montjoy (2006), Waugh & Sylves (2002) and Waugh & Streib (2006) have studied emergency management primarily from the perspective of collaborative planning and

goal setting, as opposed to resource sharing. According to Bruno (1997), Canton (2007), Coleman (2001), Forsman (2002), and Loflin & Saunders (2002), resource sharing is an essential part of developing regional emergency response to support operational effectiveness during a crisis.

Yin (1994) wrote that case studies are well suited for verifying and clarifying theory, while simultaneously shedding new light on them. This research served to further verify theories related to inter-organizational relationships by adding to the body of knowledge, while simultaneously providing greater clarity and depth to it by examining its applicability in a differing setting.

Last, because the theoretical framework used in the research involved a heretofore-untested model, the research provided a means for testing said model in the study of inter-organizational collaboration. This suggests another significant outcome of the research, which was the development of a new model for exploring inter-organizational relationships in emergency management that may support future studies in the field.

CHAPTER II

REVIEW OF SELECTED LITERATURE

Introduction

Chapter II provides an overview of selected literature relevant to the research. As noted in Chapter I, regional emergency response is often referred to as collaboration. As is discussed in Chapter II, the term collaboration is often used broadly to refer to multiple individuals or organizations working together. For purposes of this study, collaboration theory was used as the framework to develop the model of regional emergency response, which was used to conduct this research (see figure 1.2). It should be noted, however, that part of this research involved determining if collaboration did exist, or if the regional emergency response relationship more closely matched another relationship included under the umbrella term collaboration, which are covered in the literature on collaboration.

Collaboration-Competition Continuum

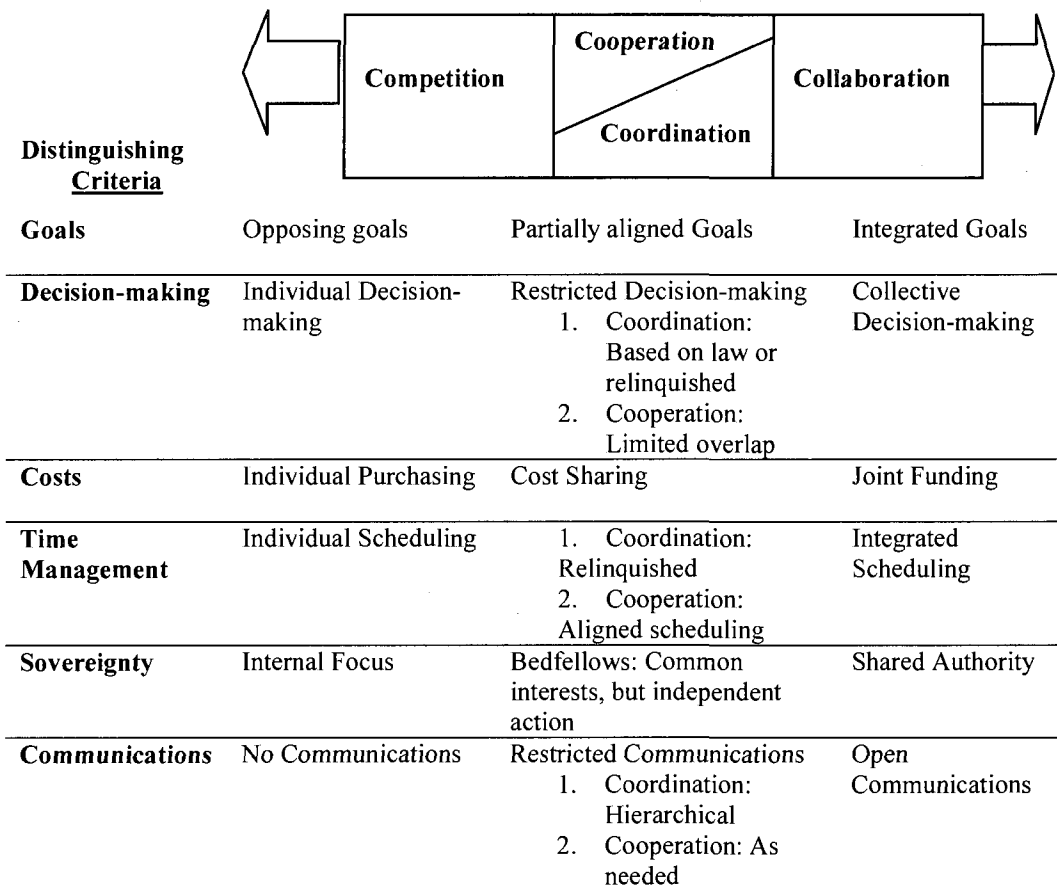
Collaboration is, "...when people from different organizations produce something together through joint effort, resources, and decision making, and share ownership of the final product or service (Kamensky et al., 2004, 8)." According to Agranoff & McGuire (2003, 4), it is "...a purposive relationship designed to solve a problem by creating or discovering a solution with a given set of constraints." To fully appreciate the concept of collaboration, it is important to understand the related terms of competition, cooperation and coordination. Competition is characterized by divergent, if not opposing, goals. In a

competitive environment, actors seek opposing goals, which suggests they may be competing for scarce resources to achieve their individual aims (Basalo, 2003).

Cooperation is characterized by an absence of opposition, but no clear support. In a cooperative environment, other actors do not necessarily share the same goals, but their goals are not mutually exclusive (Kamensky et al., 2002). Additionally, their resource needs may not be in conflict. Consequently, in a cooperative environment, the other actors are not engaging in activities that hinder the goal attainment of others. Communications are present, but they are limited to times and circumstances when they are needed for goal achievement. At other times, they are limited, if present.

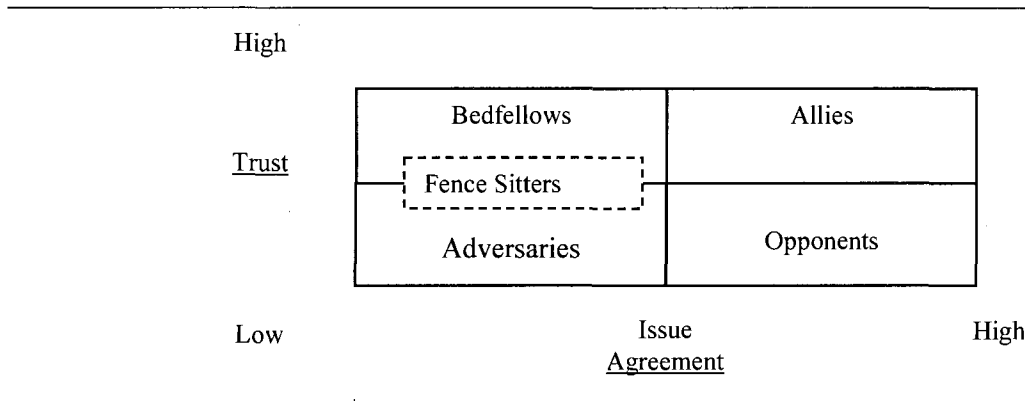
Coordination is characterized by some form of top-down, authority-driven process, led by a leader or group of leaders acting in concert toward a common goal, or goals that are somewhat similar (Drabek, 1990). The individuals or organizations in a coordinated effort are all working in the same direction, but they are essentially working independently towards a goal that may be independent. In a coordinated environment, individual actors may achieve their goals while others may not. Communications are hierarchical, moving through clearly defined pathways from the top to the bottom.

Competition, cooperation and coordination all differ in quality from collaboration (see table 2.1). Collaboration, as will be discussed in greater depth later in this Chapter, involves the active integration of individuals or organizations into a relatively cohesive approach. Collaboration is characterized by a shared vision developed by the group, an integration of policies or operations, a clear understanding that the overall success of the endeavor is wholly interdependent of the efforts of all actors, and an environment where everyone achieves their goal.

Figure 2.1: Collaboration-Competition Continuum

The collaboration-competition continuum is conceptually derivative of Block's (1991) typology for the interpersonal relationships as illustrated in figure 2.2. Block posited that there were essentially political relationships between individuals and organizations on any issue. When the differing parties agreed on an issue and trusted one another, they were allies, which somewhat mirrors the concept of collaboration. When there is a low level of trust and little or no issue agreement, Block suggested an adversarial relationship existed, which is suggestive of a competitive relationship.

Figure 2.2: Interpersonal Relationships Based on Trust and Issue Agreement



The other three relationships identified by Block (1991), those identified as bedfellows, opponent, and fence sitters, are somewhat reflective of the coordinated and cooperative relationships in the collaboration-competition continuum. Bedfellows may not agree with another party on a specific issue, but their relationship is sufficiently strong that they will assist, or at least not hinder activities. Opponents have aligned goals with another agency, but lack a strong relationship. Despite this, because of common interests, they are willing to work closely with others. Fence sitters are not strongly for or against the issue, and Block suggests they may be brought into a working relationship as bedfellows if their needs are recognized and met.

As noted, these three relationships of Block's (1991), opponents, bedfellows, and fence sitters, reflect intermediary steps between allies and adversaries. As they are based upon differing criteria than used in the collaboration-competition continuum, they are not the conceptual equivalents of coordination and cooperation. The salience of Block's typology to this research is that relationships between organizations or individual need not be wholly polarized, but may be typed according to specific criteria.

Distinctions Between Leadership and Management

To understand collaboration, especially within the context of the theoretical framework of this research (see figure 1.2), it is necessary to understand not only collaboration, but also the leadership and management functions. A brief understanding of leadership is essential to understanding what behaviors organizational leaders must adopt to support the development and sustenance of new approaches, such as collaborative endeavors. A brief understanding of management functions is essential to understand what individual organizational concerns must be balanced in adopting new approaches, while simultaneously insuring the organization continues to achieve its individual mission.

A distinction between leadership and management may seem artificial. Some authors, including Fairholm (2006), suggest leadership and management are a single construct, with any notable distinctions being related more to perspective than to substance. Fairholm posits there are five distinct leadership perspectives. The first perspective is “leader as management,” which is related to the school of scientific management, wherein leaders are focused on traditional managerial functions such as were noted by Gulick’s PODSCORB, as discussed later in this chapter. The second perspective is “leadership as excellence manager,” which is associated with the “excellence movement” of the 1980s (Fairholm, 2006, 580). The third is “leadership as a values-displacement activity,” where leaders attempt to change organizations slowly through a transition from individual values to shared values, as opposed to focusing on coordination and control. The fourth perspective is “leadership in a trust culture,” where the interaction between employees and employer in the work place creates not only a

culture of shared values, but also an environment where there is a clear perception of the key role filled by the leader within that relationship. The last perspective is “whole-soul leadership,” which suggests that all people have a single spirit, which can manifest itself in a cohesive approach that engages followers emotionally, intellectually, and technically, characterized by a complete integration of individual and organizational goals.

Fairholm (2006) suggests the concept of perspectives of leadership is aligned with the concepts of emotional intelligence, wherein the interpersonal capacities of a leader are of preeminent concern. While Fairholm presents an intriguing perspective that offers an alternative means of framing views of leadership and management, it is, to some extent, at odds with the more traditional divisions suggested by other authors, as reflected in the following sections of the literature review, which treat management and leadership as distinct concepts. Additionally, critics of emotional intelligence argue the theory is not well substantiated and is based on positions that have never been satisfactorily validated through empirical research, making it a problematic foundation upon which to base a new theory (Gabriel, 2000; Zeidner et al., 2008).

Conceptually, the categorization of leadership and management into separate concepts is supportive of better understanding related issues. As is noted in the literature review, leadership generally revolves around such concepts as establishing a vision, creating a team spirit, and sustaining the efforts of groups. Management generally revolves around capacities related to analysis, organization and resource allocation. These appear to be differing skill sets that may, on occasion, be brought into conflict.

Illustrative of this, under some circumstances, it is possible the personal leadership characteristics of a governmental official may be held in check by managerial

constraints, such as limited resources, inadequate communications systems, or a lack of enabling formal authority. In other circumstances, government officials with fewer interpersonal skills, but who are otherwise well qualified in analytical and organization areas, might find their ability to establish a vision and create an effective team hindered. Under such circumstances, exploring the potentially conflicting leadership and managerial functions at play may provide a more comprehensive understanding of the phenomena being studied. For purposes of this research, management and leadership functions will be viewed as discrete processes, which may influence each other.

Trottier et al. (2008) explored this distinction in some detail, using Bass's full range leadership theory as a foundation. Bass's theory divides leadership into eight elements, which may be divided into three broader areas: laissez-faire leadership; transactional leadership; and, transformational leadership. Laissez-faire leadership is characterized by an absence of leadership of any kind. Consequently, though it may be found in a real-world environment, Trotter et al. excluded it from their study. The latter forms of leadership, transactional and transformation, were derived from the works of Burns (1978), which posited transactional leadership involved activities revolving around the alignment of resources to accomplish specific goals, conjoined with efforts to maintain coordinated activities. Conversely, transformational leadership focused on activities associated with creating a vision, as well as with influencing and motivating employees. The study examined how transactional and transformational leadership competencies influenced employee perceptions related to the effectiveness of leadership in government settings (Trottier et al.). They found both transactional and transformational leadership were important to perceptions of leadership effectiveness,

though transformational competencies were viewed as marginally more important. Their research supports the decision to examine management and leadership functions as discrete entities.

Management Functions

Many authors, including Lasker & Weiss (2003) suggest management and leadership are conjoined into a single concept, but many authors treat them as discrete, though aligned, concepts. Generally speaking, management deals with the practical aspects of running an organization. This involves such tasks as establishing measurable objectives, recruiting, hiring and training employees, budgeting, resource acquisition and allocation, and some form of control system. Numerous writers have sought to identify the essential functions of management, which were identified by Luther Gulick as planning, organizing, directing, staffing, coordinating, reporting and budgeting, which is often referred to as PODSCORB (Gulick, 1969). Along similar lines, Henri Fayol (1949) wrote that there were five basic management functions, which were planning, organizing, commanding, coordinating and controlling.

Ivancevich & Matteson (1996) suggested that management revolves around planning and coordination functions, but their discussion of these two functions essentially encapsulated the functions previously identified by Fayol and Gulick. Their positions are reflective of many authors studying management. Many have studied the management of organizations, approaching the issue from differing perspectives, based upon differing underlying premises. However, while their perspectives and

interpretations differ, the functions they examine remain largely the same (Aamodt, 2007; Cherrington, 1995; Ivancevich & Matteson, 1996; Landy & Conte, 2004).

Some authors studying management focus not so much on function, but the manner in which the manager perceives the organization. Morgan (1997) wrote organizations could be viewed in differing manners, such as machine, organism or brain. According to Morgan, the manner in which the organization was perceived altered the approach to management, but not the functions inherently important to it. It has also been proposed that, rather than focus on functions, management could best be studied by the organizational level of concern. Ivancevich & Matteson (1996) posited management could be approached on three distinct levels, though the levels may overlap. Within this context, management may be done on the action level, focusing on processes, on the people level, focusing on controlling behaviors, or on the information level, focusing on the control of information throughout the organization. It is notable, however, that even when studying management by perspective instead of by function, the basic functions previously noted remain largely the same.

The literature suggests that the functions of management have remain largely unchanged since the inception of organized study of organizations. Essentially, management theory has largely been focused on the practical challenges of acquiring and using resources to the greatest benefit to the organization. Within the model of regional emergency response used in the proposed research (see figure 1.2), management is associated with these practical challenges. It represents concerns such as identifying measurable objectives, reporting systems, equipment and supply acquisition, wage and

workers compensations issues, monitoring and controlling behaviors, lawful constraints, and legal liabilities.

Leadership

There are many definitions of leadership, but most authors seem to focus on the ability of leaders to influence the organization as the primary difference between leadership and management (Ivancevich & Matteson, 1996). The prototypical leader is generally not associated with the managerial functions of the organization, but instead is viewed as an agent of power, who uses that power to influence organizational members to achieve success. Linsky & Heifitz (2002) suggest that the key to leadership is, to some extent, rising above managerial functions to get a more comprehensive understanding of the organizational totality, preparing them to address specific issues, as needed. To some extent, this suggests leaders should remain largely outside of normal managerial functions until they identify a new challenge, or until a new problem requiring an innovative approach emerges (Schein, 2006). Supporting this position, Heifitz (2006) and Hesselbein (2005) noted leadership is more important in adaptive problems than technical ones, suggesting technical ones are more suited for managerial approaches that deal with practical, more easily solved issues than with unfamiliar situations that emerge unexpectedly.

Leaders are generally viewed as being task oriented, but in this instance the word task does not refer to the smaller-scale activities of the organization. Rather, task orientation refers to the ability of the leader to maintain a focus on the ultimate goal of the organization, as opposed to concerns about the specifics of processes that may hinder

or prevent goal attainment (Aamodt, 2007; Burns, 1978; Linsky & Heifitz, 2002).

Consequently, leaders are expected to be visionaries instead of functionaries, developing and clarifying goals for the organization (Goldsmith et al., 2003; Heifitz, 2006; Schein, 2006). Illustrative of this point, Aamodt (2007) suggested leaders are characterized more by their perspective of what the organization can do, as opposed to what the organization is at any given time.

Effective leaders are those that use their powers to influence people to achieve organizational goals (Burns, 1978; Goldsmith et al., 2003; Schein, 2006). The specific powers used by the leader to achieve this may vary, including powers derived from formal positions, informal influence, high levels of expertise, the abilities to reward and punish, or a charismatic personality, but the focus remains on influencing employees to accomplish organizational aims in an effective manner (Aamodt, 2007; Burns, 1978, Ivancevich & Matteson, 1996). A core facet of achieving this is to continuously engage stakeholders internally and externally, working collaboratively and sharing power as needed to insure the needs of all stakeholders are addressed (Kanter, 1996). If the use of leadership power is viewed as exclusionary and aimed at the achievement of goals that do not satisfy the needs of a particular individual or organization, it is likely to be viewed as coercive and will be ineffective.

Leaders are viewed as key players in group maintenance. Over time, situations change and interpersonal relationships may be stressed. Differing personalities will react differently to differing challenges, the pace of the work, and the impending end of the project. This may cause group cohesion to be weakened, which may have a detrimental impact on goal attainment. Leaders are expected to take appropriate actions, based on

circumstances and the individuals involved, to strengthen group bonds and maintain activities that lead to success (Aamodt, 2007; Goldsmith et al, 2003; Landy & Conte, 2004). To a very great extent, the visible enthusiasm of the leader is vital (Aamodt, 2007). While this is important for leaders in short-term projects, it is even more so in sustained organizations where the employees will be expected to continue efforts over a longer time.

Based on these perspectives, the requisite skills for a leader are somewhat different from those required of managers. Instead of the more practical-oriented skills of management, leaders are expected to excel in creativity, communications, vision building and collaboration. Leaders must be creative visionaries, willing and able to seek out alternative approaches to achieving an end (Aamodt, 2007; Burns, 1978; Kanter, 1996; Schein, 2006). Leaders must excel at communications, because one of leadership's greatest roles is the sharing of a vision amongst all actors (Aamodt, 2007; Goldsmith et al., 2003; Ivancevich & Matteson, 1996). Leaders are expected to be representative of the group. This is not to suggest that leaders will always be serving a democratic process, but that they cannot be seen to be wholly partisan. The most effective leaders are those that find a way to incorporate the needs and goals of all group members within the overall vision of the organization (Burns, 1978; Ivancevich & Matteson, 1996; Kanter, 2006; Heiftiz, 2006). This will help group members internalize group goals, making them more likely to remain actively engaged in the process.

Kantor (2006) and Schein (1996) suggested all of these capacities require an ability to understand the cultures and needs of varied organizations and an ability to work adroitly at getting those with differing, potentially conflicting goals to engage in a

collaborative manner. Schein (2006) wrote that effective leaders are expected to meld the skills of the anthropologist, the family counselor and the artist. He suggested that leadership requires the ability to understand and change organizational culture, to be capable of building and sustaining interpersonal relationships, and to be creative in developing innovative approaches to meet emergent or complex problems.

The value of team building cannot be undervalued. Effective leaders in the modern world are expected to be able to identify and engage stakeholders from diverse groups (Heifitz, 2006; Kanter, 1996). They are expected to be able to integrate the needs of many into a common vision that support communal efforts towards a common goal, while simultaneously meeting the needs of all involved, if only marginally (Ghani, 2006; Gratton, 2005; Heifitz, 2006). In this process, the role of leaders is the building of bridges between people and between organizations, as opposed to focusing on what happens after those bridges are built (Ghani, 2006). The fruit of their labors will involve more practical matters of organizational operations, which will likely be handled later through traditional managerial functions.

Burns (1978) suggests there is a difference between leaders and manipulators, with the distinction being a moral one. Leaders attempt to accomplish a goal that in some manner, even if only tangentially, addresses the needs of all of the group members. Manipulators attempt to accomplish a goal that, regardless of how it is presented, primarily serves the need of the manipulator or his organization, even if that leaves the goals of others marginalized or ignored. Maciariello (2006) and Kantor (1996) repeated this sentiment, noting that successful leaders must engage multiple stakeholders to achieve organizational aims, which requires organizational aims be sufficiently broad to

meet the needs of the stakeholders. Obviously, this can be challenging, as it can mean engaging people with conflicting aims.

Heifetz (2006) suggested that the true measure of leadership is not based on the number or loyalty of followers, but must be examined contextually. He suggests that leadership is easy when it is directed at those who are in agreement. Instead, he suggests that the true challenge to leadership is when the leader must engage those either uncommitted to any side of an issue, or to those diametrically opposed to his goals. In such instances, the leader must adapt their own behavior to facilitate better understanding and the identification of common ground, now or in the future, if they are to achieve communal success.

Collaboration

Lasker & Weiss (2003) wrote that one of the challenges in studying collaboration is that there are many names applied to the concept, including collaboration, cooperation, community engagement, community empowerment, partnerships and networks. Guffey (2003) posited that collaboration is the most appropriate means for addressing complex, difficult problems when a single organization lacks the resources, authority or influence to accomplish the goal upon their own. For purposes of this research, collaboration was defined as disparate actors purposively working together to achieve a common goal through an alignment of vision and action, involving processes for facilitating and operating within multi-organizational relationships created to address complex problems within an inter-organizational environment.

Collaboration theory focuses on interpersonal relationships and how they influence the work environment (Agranoff & McGuire, 2003; Guffey, 2003).

Collaboration rarely emerges spontaneously between organizations; it is a deliberate, conscious act made by organizational leaders through a political process (Agranoff & McGuire, 2003). It involves careful planning, in-depth discussions and the engagement of numerous internal and external stakeholders, to identify all factors influencing an identified issue, to identify all available resources that may be brought to bear upon the problem, and to work collaboratively during service delivery.

There are many potential benefits for collaboration that are generally agreed upon by authors in the field, including more effective and efficient service provision with a reduced or limited cost. The benefits arise largely because of the coordinated efforts of multiple organizations seeking to attain the same goal, permitting cost-sharing across multiple agencies. Levine (1998) described several ancillary benefits for organizations involved in collaboration. Levine suggests that collaboration contributes to the development of numerous internal and external relationships, many of which may have been unforeseen in the development of the collaborative relationship. These relationships may contribute to new collaborative ventures as success in one area serves as an impetus to become involved in others, which has been noted by several authors (Levine, 1998; Lindstrom, 1998; Perroni, 1991). Levine also wrote that successful collaboration could contribute to an increase in employee motivation, as employees come to see new avenues opening up that may not have previously been present for professional exploitation. Additionally, Levine noted successful collaboration is only possible when communications flow openly and freely, which may have the ancillary benefit of

increasing coordination between internal and external stakeholders on other issues. This increased communication and coordination could lead to higher performance levels throughout the organization.

Collaboration may take many forms. Agranoff & McGuire (2003) noted that it may be horizontal or vertical, crossing governmental, organizational and sectoral boundaries. Kamensky et al. (2004) and Agranoff & McGuire (2003) wrote that collaboration may be formal or informal. Kamensky et al. categorized formal and informal collaborative relationships as either networks or partnerships. Within this construct, informal collaborative relationships, characterized largely by interpersonal relationships of individual actors, are referred to as collaborative networks. Alternatively, collaborative partnerships are formal relationships, which may include contracted services, memoranda-of-understanding or other formal documents that clarify roles and responsibilities of each partner. Such documents not only serve to clarify roles, but also serve as a visible symbol of the commitment of signatories.

Collaboration, though seemingly based on simple human interactions, is not a simple process, nor is it one that can be ignored. Jaeger (2004) noted that while collaboration is critical to success in the world of business, it is vital to the field of emergency management, where resources for large-scale events may be lacking. Drabek (1990) and Waugh (1996) suggested the interpersonal relationships and face-to-face communications characterizing collaboration are vital to successful collaboration, especially during the intense pressures of emergency response and recovery when there is no time to develop them within the decentralized organizational structures that arise to address emergent issues in a rapidly evolving service delivery environment. Recognizing

this, emergency managers should be actively pursuing collaborative relationships to build resource capacity prior to an event. Agranoff & McGuire (2003) noted this will likely not happen haphazardly. In their view, collaboration is a conscious, political act, which must be initiated, developed and sustained through direct action. While spontaneous acts of collaboration may occur once a certain level of social capital between actors has been established, the purposive process of collaboration will usually occur before true collaboration emerges (Putnam, 1993). McGuire (2006) suggests there is an emergent body of literature focusing on the skills requisite for effective collaboration.

Bryson et al. (2006) hold that inter-organizational collaboration, particularly intersectoral collaboration, is more likely to occur because of one two reasons. The first is known as systems failure, which is characterized by the inability of an organization to achieve success independently. Having experienced failure in the past and moved to seeking a solution for the future, collaboration with other organizations is embraced as a potentially valuable tool. The second is the emergence of a managerial assumption that collaboration is the “Holy Grail” of management, providing a means for addressing problems that will never fail (Bryson et al., 2006, 45).

In a similar vein, Seidman (1998) suggested that many public managers believe that if they could achieve full coordination between all organizations all challenges to providing government services would vanish. He compared this belief to the “philosopher’s stone,” which was sought by medieval sorcerers to magically turn base metals into gold, implying it was a futile quest (Seidman, 1998, 142).

Guffey (2003) posited there are four critical elements to the development of a collaborative relationship, which must all be present to achieve success. First, the timing

and political environment must be ripe. Organizational managers attempting to cross jurisdictional or sectoral boundaries do so under the oversight of political leaders. Porter & Wallis (2002) suggested timing may be influenced by a perceived crisis, a crisis in a similar environment or because the benefits of such collaboration have been made clearly evident to the decision makers. Second, Guffey suggests that the collaboration must have strong leadership, which may be provided by an individual or a small collective. While collaboration is generally perceived to be a full partnership, Guffey (2003), Lasker & Weiss (2003), and Bennis & Biederman (1997) all noted the importance of strong leadership to help clarify and refine the vision, as well as to keep all stakeholders involved.

This second part, that of keeping all stakeholders involved, is a vital component of Guffey's third element, that of the leader engendering trust. Many of the authors on collaboration write of the importance of fully engaging all appropriate stakeholders in the process, making them feel they have a vital role to play in the overall success of the collaborative efforts. If the leaders of the collaborative effort build and maintain interpersonal trust and respect with all involved, they are more likely to achieve success. If they lose credibility, leaving some members feeling marginalized, their efforts will increasingly be prone to failure. Last, Guffey (2003) noted the importance of having a shared vision, which was also cited as vital by Basalo (2003). For disparate partners to work together towards a collective goal, that collective goal must be known and accepted by all. Guffey posits it is not so important that efforts between organizations are identical so much as it is they are aligned towards a common purpose.

Duncan (1995) described the impetus to engage in collaboration as domain consensus, which he defined as an agreement as to a commonality of interest between all engaged in the process. Domain consensus requires that all organizations involved recognize they are truly interdependent for success or failure. Interestingly, according to Duncan, this presupposes that the organizations are, in fact, interdependent. Duncan posited that occasionally agencies are engaged in collaborative efforts when, in fact, their functions are not allied with those of others. In such circumstances, their involvement may actually hinder collaborative efforts as attempts are made to adapt systems to accommodate them.

The author also suggests that domain consensus requires all participating agencies agree to some degree of standardization in terms of operations or management, which may negatively impact other aspects of their organizations. Consequently, domain consensus must be approached carefully with a clear understanding of potential costs and benefits. Last, Duncan suggests the number of organizations is a factor in domain consensus. Any form of collaboration between organizations suggests some level of coordination of effort, which becomes increasingly more complex as the number of organizations involved grows.

Inter-organizational Collaboration

Inter-organizational collaboration is an approach for addressing governmental issues without changing the formal structure of governments. It developed in an environment where the public perceived flaws in service provision, but where the will to change formal governmental structure was lacking (Hamilton, 2000). Dodge (1996) and

O'Toole (1997) noted that a contributing factor to this demand was in increasing level of governmental mandates for services that involved all levels of government working in conjunction with the private sector. Instead of forcing changes in those government structures or redefining the formal relationships within the federal system, inter-organizational collaboration provides a pragmatic means of addressing service provision through collaboration and coordination (Hamilton, 2000; Kettl 2003; Zeemering, 2008).

Collaboration does not have to involve the entire organization. Bennis & Bierderman (1997) wrote of collaborative sub-units within larger organizations, such as the skunk works at Lockheed Martin. The authors suggest that, in some circumstances, the collaborative units essentially become "...island societies....," with their own cultures and visions (Bennis & Bierderman, 1997, 22). These island societies are permitted and nurtured by the larger organization so long as they are productive and support the success of the entire organization. Such island societies maintain "...bridges to the mainland..." to facilitate communications and sustain necessary ties, but their usage is restricted to prevent the sub-unit from being reincorporated into the collective (Bennis & Bierderman, 1997, 20). Bennis & Bierderman (1997, 21) referred to these sub-units as "great groups," noting they were always characterized by great leaders. It is interesting to note that while the leadership in all such groups was great the leadership styles varied greatly. The authors posited that great groups created great leaders and vice versa, with the precise order being immaterial. Hamilton et al (2004) also noted the existence of such collaborative sub-groups, noting that the collective performance of such sub-groups as component parts led to the success or failure of the organization.

Dodge (1996) posited that inter-organizational collaboration enhances the federal system of government, permitting government leaders to work free of the formal constraints of their traditional governmental systems. Agranoff & McGuire (2003) stated this will become vital in the future, when jurisdictional boundaries will become increasingly conceptual. Unless government managers work with other agencies, they will likely fail, because in the future the well being and quality of life for everyone in a metropolitan area will be largely dependent upon the ability of the leaders of each locality to work together effectively, regardless of political lines (Ruchelman, 2000; Schmoke, 1996; Zeigler, 2003). Illustrative of this, government leaders were caught off guard in one instance when the citizens of one community planned their own evacuation into another state in the face of a hurricane based on their normal patterns of travel and commerce instead of on formal political lines (Friberg et al., 1990).

Brenner (2002) wrote there have been three waves of inter-organizational collaboration known as metropolitan regionalism. The first wave was noted in the cities of New York and Chicago in the late 19th and early 20th centuries. It was characterized by the spatial expansion of central cities into adjoining areas, often through annexation (Basalo, 2003; Brenner, 2002). The second wave of metropolitan governance arose in the latter half of the 20th century and was noted for a polycentric form of government. It was often developed using a tiered governmental services scheme, such as was noted in Portland, Oregon, Toronto, and the Miami-Dade region of Florida (Orfield, 1997). Governance characterizes the third wave of metropolitan regionalism, with service provision systems being developed using alternative means such as joint ventures or privatization, as opposed to relying on changes to the formal structures of government

(Brenner, 2002; Hamilton 2002). Wallis framed metropolitan governance into three similar categories, referring to them as structural, polycentric and networked (Schechter, 1996). Regardless of the taxological nomenclature, inter-organizational collaboration permits government leaders to operate effectively across organizational boundaries and not merely within their hierarchical structures, which is a necessity for effective modern public management (Agranoff & McGuire, 2003).

Cigler (1994) stated there are several pre-conditions necessary for the development of intergovernmental partnerships. They include: the occurrence of a crisis; a politically supportive constituency; support from external actors; political support by elected officials; identifiable advantages for all stakeholders; a process champion; and a focus on effective strategies as opposed to formal structures.

Wallis (2007) states inter-organizational collaboration at the local government level may be encapsulated into six tenets. First, it is focused on governance as opposed to governmental structures, providing a pragmatic means of addressing service delivery through multiple organizations, public and private, while working within the intergovernmental relationships of modern society. Earlier attempts at regionalism aimed at combining governments through annexation or the development of tiered systems of service delivery, while new regionalism accepts the existing structures as part of the environment.

Second, inter-organizational collaboration at the local government level focuses on processes, not structures. While traditional responses to governmental problems have focused on creating or refining existing governmental structures or creating new systems, inter-organizational collaboration suggests managers would be better served to explore

non-traditional approaches towards process development, which Agranoff (1986) referred to as intergovernmental management. Agranoff made a distinction between intergovernmental relations and intergovernmental management. The former, he wrote, is a continuing debate about the proper roles and relationships between governments, while the latter encompassed means of implementing programs within the existing system.

Third, inter-organizational collaboration views the metropolitan environment as an open system, with jurisdictional boundaries more conceptual than real, permitting joint ventures and privatization to become not only valuable tools for managers, but essential for effective service provision. No longer are organizational officials or employees to view a single agency or authority as a rational boundary for programmatic development. Instead, the mission of the organization became the primary concern, with any reasonable accommodation or partnership viewed as desirable if it supported mission success.

Fourth, inter-organizational collaboration focuses on collaboration as opposed to coordination. According to Wallis, coordination implies that there is some form of hierarchical relationship, which can contribute to conflict regarding individual authority and jurisdictional sovereignty. Drabek (1990, 169) referred to this phenomenon as “turf protection,” noting it was a significant barrier to the development of interpersonal and inter-organizational relationships. Alternatively, collaboration, which is a foundational precept of inter-organizational collaboration, focuses on a meeting of equals and the development of consensus, which is more likely to spur greater engagement and the internalization of group goals.

Fifth, inter-organizational collaboration is characterized by trust as opposed to accountability. While not diminishing the concept of accountability for the success or failure of a project, inter-organizational collaboration recognizes that an over emphasis on accountability creates systems that may actually bar success, as resources are reallocated from service delivery to oversight. Inter-organizational collaboration demands that organizations create flexibility in rules and boundaries, facilitating the ability of employees to easily cross formal barriers in collaborative activities. In essence, new regionalism inter-organizational collaboration attempts to redefine the balance between employer trust of employees and the demand for full accountability in public organizations.

Last, inter-organizational collaboration is based on empowerment as opposed to power accumulation. Wallis noted that in earlier attempts at regionalism, power for higher levels of government was taken from lower levels. In inter-organizational collaboration, service delivery and associated powers should be devolved to the lowest levels of government possible, permitting the customization of services at the community level. In doing so, organizational officials are more likely to develop effective services that meet local needs and standards (Toffler & Toffler, 1994).

There are opponents to the concept of inter-organizational collaboration. Some who object to embrace it do so because they fail to recognize the interdependence of differing jurisdictions, differing organizations, and differing sectors in the effective and efficient delivery of service in our current environment (Agranoff & McGuire, 2003; Hamilton et al., 2004; Lindstrom, 1998; Orfield, 1997; Ruchelman, 2000; Rusk, 1993). Others do so because they wish to retain the political independence of their jurisdiction or

the autonomy of their organization, or because they perceive they are in a highly competitive environment with multiple parties vying over scarce resources (Basalo, 2003). Cigler (1994) did posit that some may view strong intergovernmental ties as threatening because they can serve as a catalyst for systemic change far beyond what was originally desired. Such perceptions may not be petty power issues within an individual an organization, but a concern for having a sufficient level of accountability over processes to insure service delivery is provided in the quantity and quality desired by the jurisdiction in question (Agranoff & McGuire, 2003). Whatever the reason, according to Orfield (1997), this has contributed to large amounts of government waste and unacceptable levels of redundancy in services within a metropolitan area. In the emergency management context, Clarke (1999) suggested this negative attitude might lead to emergency plans that fail to reflect reality, which are unworkable in the face of a true crisis.

A perspective of inter-organizational collaboration theory that is useful as an analytical tool is that of Kettl (2002), which provides a typology for categorizing and examining such relationships. Kettl's work examines governance in terms of distinct categories, which he refers to as Hamiltonian, Jeffersonian, Madisonian, and Wilsonian. The Hamiltonian perspective suggests a top-down, hierarchical approach towards governance. The Jeffersonian perspective focuses on the rights of the states, local governments and individuals, positing a bottom-up approach towards governance. The Madisonian perspective suggests effective governance is based upon strenuous efforts to accommodate the needs and desires of as great a number of participants as possible.

Last, the Wilsonian perspective focuses on the professional development and implementation of plans, driven by goals established by elected officials.

Each perspective, individually or in combination, could impact collaborative relationships in emergency response. Illustrative of this, a Madisonian-Wilsonian combination would suggest a political process to engage multiple stakeholders blended with a technocratic response to the specific challenges, based upon the parameters established by policymakers, while a Hamiltonian-Wilsonian perspective would suggest a behavioral pattern consistent with a strong executive setting the course. The latter would be largely independent of stakeholder views, with the systemic goals and objectives established by the strong executive, carried out in a professional manner divorced from public opinion. Conversely, a Jeffersonian approach, or one which included a Jeffersonian perspective, would likely focus on individual rights and the spirit of volunteerism, which might negate the creation of collaborative emergency response partnerships at the Federal or state level and support informal, volunteer-based collaborative emergency response within each local community.

While Wallis (2007) and Porter & Wallis (2002) provide a framework for understanding inter-organizational collaboration, other authors have suggested an additional characteristic for the theory. Agranoff & McGuire (2003), Orfield (1997) and Kettl (2003), suggest that with each organization working independently, there may be a great deal of redundancy in service delivery systems within a metropolitan area, leading to wastage of scarce resources. In their writings, inter-organizational collaboration recognizes the fiscal constraints on modern government, where citizens demand greater levels of service, but are often vehemently opposed to tax increases or high fees

(Agranoff & McGuire, 2003; Kettl, 2003; Toffler & Toffler, 1994). Conjoined with the understanding that monies are often not available to provide basic level services is the realization that creating and maintaining specialized services for statistically unlikely events would be a poor use of limited resources. As United States' Fire Administrator Gregory B. Cade remarked (personal communication, March 6, 2007), it makes no sense to create a service delivery system to meet a service demand that may occur only every few years when there is no use for such levels of capacity at normal times. Consequently, these authorities suggest that a key focus of inter-organizational collaboration is fiscal responsibility.

Agranoff & McGuire (2003) approached collaboration theory with four underlying premises. First, they believed collaborative relationships are “multifarious and abundant” (Agranoff & McGuire, 2003, 6). Second, they posited that each locality approaches collaborative ventures with differing premises and goals, creating an intergovernmental environment with a wide variety of collaborative management models. Third, they suggested there were many tangible and intangible factors influencing the decision to engage in collaboration activities, which differed between localities. Last, the authors believed that, despite the wide variance in approaches to collaboration management between localities, it was possible to discern specific patterns in collaborative activity.

Agranoff & McGuire (2003) developed a typology for classifying collaborative management styles for intergovernmental projects based on two criteria; the number of collaborative efforts undertaken and the influence of overall organizational strategy on collaboration. Their research posts five distinct collaborative management styles:

abstinence; content; reactive; top-down; donor-recipient; and, jurisdiction. Their findings are instructive in that they involve the confluence of various internal and external factors, including perceptions of individual actors towards power-sharing and collaborative activities, in the development and sustenance of collaborative ventures.

Agranoff & McGuire (2003) classify a collaborative management style characterized by low levels of activity and strategy as abstinence. Management engaged in such a model of collaboration is effectively devoid of collaborative efforts. This may be associated with relative isolation where organizations have few opportunities to collaborate, environments where the organization is capable of achieving all perceived needs without external aid, or with a political decision to not engage with external actors. The collaborative management style that is wholly aligned with a strategic vision but has limited activity levels is classified as contented. According to the authors, contented collaboration is typically found in wealthy communities that have sufficient revenue to meet most needs, seeking collaborative assistance only when it supports part of their strategic vision that would otherwise go unfulfilled. Based on this definition, the low levels of activity are strategic in essence.

Reactive collaboration is characterized by a management style that approaches collaborative activities in a tentative manner, having activities levels and strategic alignment that is neither strong nor weak. In such environments, there is typically some level of collaboration, but not in all service arenas. Reactive collaboration is often characterized by an active dislike for the bureaucratic nature of some intergovernmental activities. While management may be willing to engage in such efforts if it is aligned with its strategic vision, it will decline to do so if the efforts seem unpromising or

excessively burdensome. In such management environments, the decision to engage in collaboration may be influenced by a perception of an unwieldy bureaucratic process. In such environments, the perceived cost-benefit of the collaborative activity is a primary concern, leading some opportunities for collaboration to be left untouched.

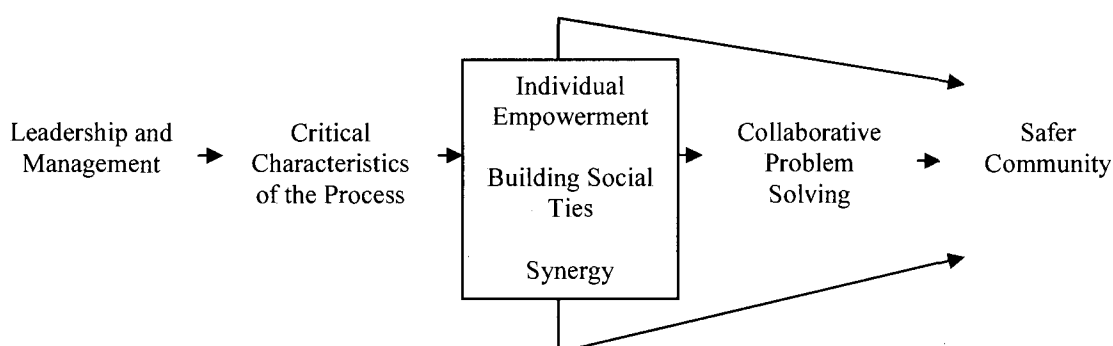
Top-down collaboration is characterized by high-levels of collaborative activity but low strategic alignment. Management using a top-down collaboration model engages in such activities as a necessary evil, often perceiving it as the only means of acquiring additional resources. Illustrative of this model of collaboration is a locality that engages in grant-seeking activities because they always have, approaching the process as one in which they have little power or influence in the process, accepting the rules of the other agency unquestioningly. The donor-recipient model is also characterized by high-levels of collaborative activity, but is far more strategic in vision. In the donor-recipient model, both parties believe there is room for negotiation in creating a collaborative partnership, permitting both sides to craft a customized agreement that meets their specific needs. This form of collaborative model may only exist if both sides believe the other will engage in good faith discussions, when both sides have a vested interest in the outcome, and when both sides may be able to achieve their goals through other means.

The highest form of collaboration in Agranoff & McGuire's model is the jurisdiction-based model. This model is characterized by high levels of collaborative activity, which are highly aligned with the strategic vision of the organization. Within this model, organizational leaders are cognizant that what benefits other organizations may have a spillover affect on theirs, leading them into agreements that may have little noticeable direct benefits for them, but which have many intangible ones that will support

their organizations over the long term. Consequently, leaders of such organizations are opportunistic in seeking collaborative relationships in any form.

Lasker & Weiss (2003) developed a model of community health governance, which is readily generalizable to emergency management (see figure 2.3). Within their writings, community health governance is characterized by on-going communications between systemic partners, continuous assessments as to community health, continual efforts to identify and address influences on community health, and leveraging individual organization strengths to develop a synergistic impact on community health. Lasker & Weiss wrote that the model was based upon broad collaborative efforts with active member participation at all levels. They also wrote that, although designed to address their research concerns related to health, the model had broad implications for the study of collaboration in other settings.

Figure 2.3: Model of Inter-organizational Collaboration



(Lasker & Weiss, 2003, 18)

Lasker & Weiss (2003) posited that successful collaboration requires a special form of leadership and management. For the collaboration to be successful, the leaders

must have developed and communicated a clear vision of success. All involved must understand the desired outcome so they may align efforts and work cooperatively towards the common aim. To be effective, the leadership and management must actively engage participants at all levels, seeking to maintain open communications channels between all participants, facilitating informed decision-making. Participation of leaders and managers from each organization must be substantive, not merely pro forma. If people feel their perspectives or concerns are being marginalized, they are likely to withdraw from the process, if only informally. This is linked to the importance of all members feeling they are equal partners in the process, regardless of their inputs. If individuals feel the process is being directed towards the agenda of a particular person or agency, they are less likely to become as intimately involved as is necessary for effective collaboration. Leadership and managerial styles characterized by a clear vision, openness to ideas, collaborative spirit and mutual respect are vital to the development of the critical characteristics of the collaborative process, which they refer to as the proximal outcomes.

Lasker & Weiss (2003) posited the necessity of three proximal outcomes, which they identified as individual empowerment, the building of social ties, and a synergistic service delivery system. These proximal outcomes are a necessary, intervening link in the process chain between leadership and management and collaborative problem solving. Individual empowerment does not refer solely to the freedom of individual actors to take appropriate goal-oriented actions in a timely fashion, but also of the engagement of all stakeholders necessary for goal achievement. Lasker & Weiss suggest the process of engaging in discussions and problem solving is a cyclic one, where individuals meet and build what Kamensky et al. (2004) referred to as a collaborative

network. These interpersonal relationships support the development of trust, understanding and respect, which not only support the present efforts, but lay the foundation for future collaborative ventures. Last, synergy is recognized as vital to the process. Within this context, synergy is the increased service delivery capacity created by bringing people from various organizations together, combining their individual strengths and filling the service gaps of individual members. Within this context, it means a sharing of planning, resource acquisition and service delivery tailored to meet local demands with local resources. These three elements, individual empowerment, social ties and synergy, are critical for effective collaborative problem solving.

Collaborative problem solving was defined by Lasker & Weiss (2003) as a process by which multiple stakeholders are brought together to work in concert. The conjoined efforts are designed to solve a problem through a new form of service delivery with higher levels of effectiveness or efficiency than would be possible by any single actor or a more restricted collective. In terms of other writers on collaboration such as Kamensky, et al. (2004), Agranoff (1986), Agranoff & McGuire (2003), and Bennis & Biederman (1997), Lasker & Weiss' collaborative problem solving is collaboration in action.

In Lasker and Weiss's model, collaborative problem solving led to community health (Lasker & Weiss, 2003). Community health is the qualitative and quantitative level of health care desired by the community, which differs between locales. Ideally, community health is also characterized by an extension of collaborative efforts into other areas, with success in one endeavor supporting collaborative efforts in others, which

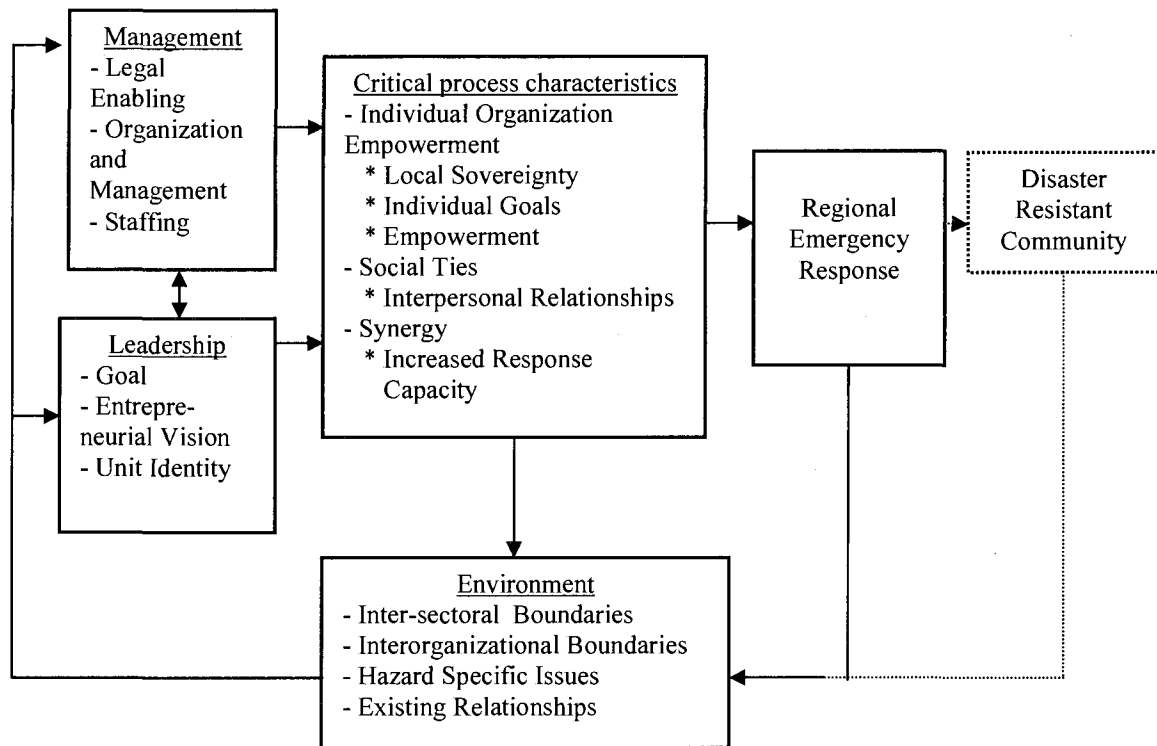
should be seen within the construct of a safer community as well (Duncan, 1995; Lindstrom, 1998; Putnam 1993).

Model of Regional Emergency Response

While Lasker & Weiss's model (figure 2.3) appears to provide a sound model for explaining and analyzing community health care, their model requires some modification for use in exploring emergency management. The revised model, designed for this research, is identified as the model of regional emergency response. It separates leadership and management into discrete concepts, eliminates the outcome statement, introduces a new concept labeled environment, and creates a feedback loop to support the cyclic nature of the process (see figure 2.4).

The model of regional emergency response indicates that leadership and management influence one another. Both leadership and management skills are necessary for the attainment of organizational goals. Organizations need a vision, but they also need a means of organizing resources to achieve it. Individuals possess differing leadership and managerial capacities, based on training, education, experience and individual personality preferences. The literature suggests that both leadership and management are trainable skills, but they also suggest that there will be occasional conflict between the values of each concept. Consequently, the leadership and managerial qualities of an individual or an organization will likely be continuously shifting to meet the needs of the moment.

Figure 2.4: Model of Regional Emergency Response



(Lasker & Weiss, 2003, as modified by T.E. Poulin)

Illustrative of this, an organizational leader might be desirous of implementing a new collaborative approach to emergency response, but there are various managerial concerns for lawful authority and workers compensation liability that must be addressed. In the other direction, management might recognize that their current processes are not as effective or efficient as they could be, but there is a lack of ability to either think creatively or to work beyond the normal limits of daily operations.

Within the context of this study, this suggests that both leadership and management are essential needs, but are predicated upon differing skills. One without the other will likely be ineffective, at least in the long term. To achieve lasting success,

both must be found in an appropriate balance so all pertinent capacities are present to meet all the identified needs of regional emergency response. For the purposes of this research, leadership was associated with the creation and sharing of a goal, the identification and engagement of stakeholders, and the ability to seek out non-traditional approaches to organizational problem-solving.

The Lasker & Weiss model includes what appears to be one step referred to as the critical components of the process and another one appearing to be a tripartite step comprised of three factors: individual empowerment; building social ties; and, synergy. This distinction appears to be unintentional. According to their description of the model, individual empowerment, building social ties and synergy are the critical components of the process. To better illustrate this, the modified model combines these terms into a single item, more clearly illustrating the critical components identified. Rationally, this make no substantive difference to their definitions or the application of the concepts included therein, which therefore remain as previously identified.

As noted in the Lasker & Weiss model, the critical components can be heavily influenced by leadership and management issues. For example, a lack of leadership could contribute to no collaborative efforts, which would mean the synergistic benefits would never have occurred. Additionally, a failure to address legal issues related to workers compensation or authority could negatively impact individual organizational empowerment, with some stakeholders feeling excluded, leading them to disengage from the process.

The model of regional emergency response used in this study included a component identified as regional emergency response, which has also been referred to as

collaboration by the participants. This is, to some extent, presumptive of the existence of collaboration. As noted previously, collaboration is distinct from cooperation, coordination and competition, although the labels are often used interchangeably. This research explored this issue, determining if, in fact, collaboration did exist within the regional emergency response teams, or if in fact they were more reflective of another relational concept, as depicted in the collaboration continuum illustrated in figure 2.1.

The Lasker & Weiss model includes an outcome statement identified as community health. If the model was fully adapted to the needs of researching regional emergency response in all its aspects, it would include an outcome statement suggesting a community is better prepared for a disaster, identified as a disaster resistant community, as distinct from a community without regional emergency response endeavors in place (Haddow & Bullock, 2005). However, this research focused on the existence of regional emergency response and not on the final outcome of a disaster resistant community. Consequently, the outcome in the revised model, the disaster resistant community, was indicated with a broken line, indicating it was not be studied in the research.

The feedback loop connects regional emergency response to the environment. Several authors associated with collaboration have stated that, to some extent, collaboration is a self-replicating process. Organizations that have been involved in successful collaborative ventures are not only likely to sustain them, but are more likely to seek out and become engaged in new ones (Levine, 1998; Lindstrom, 1998; Perroni, 1991). Rationally, regional emergency response, if successful, will support an interest is maintaining and expanding such relationships, if successful collaboration is indeed present. Conversely, if the regional emergency response is viewed as unsuccessful, it will

hinder efforts directed at new inter-organizational ventures. As the disaster resistant community was not explored in the research, that portion of the feedback loop leading from the outcome statement was not be studied. It is indicated in the revised model with a broken line.

The revised model includes a new concept, which is identified as environment. Modern public administration is not a closed system. Various models for examining the relationships between government, business and society, including models based on stakeholders and countervailing forces, recognize the importance of understanding the environmental context of public administration. Within the revised model, the environment will include those external forces that influence leadership style and managerial functions. Based on the literature, this will include, but not be limited to: funding availability; intergovernmental relations; institutional characteristics; existing inter-organizational relationships; perceptions of need among elected officials; perceptions of urgency among elected officials; and, the specific hazard under consideration. These external forces may serve as an impetus to engage in collaborative efforts or act as a barrier to their creation. Illustrative of this, in the post-9/11 environment, elected officials perceived the threat of terrorist attack as urgent, which could have served to spur collaborative ventures focused on the potential impacts of such an attack. Conversely, pre-existing relationships between local governments might serve as a hindrance to collaboration, as influential leaders withhold their support because of unrelated, previously extant animosities, despite any perceived sense of urgency (Probsdorfer, 2001).

Systems Theory

Both the Lasker & Weiss model and the modified model of regional emergency response are illustrative of the basic tenets of systems theory, which holds that organizations may be viewed as a system. Within this conceptual model, organizations are viewed as dynamic, open, purposive processes influenced by internal and external factors and are cyclic in nature (Kast & Rosensweig, 1992; Sylvia et al., 1996). Inputs are resources such as staffing, funding, time and material, which are brought to bear upon an issue.

Output measures represent products or services produced or observed, including units produced, employee injury rates, or income levels. Program effectiveness and efficiency can be evaluated by exploring the relationship between inputs and outputs (Sylvia et al., 1996). Throughputs, which were referred to as within-puts by Kast & Rosensweig (1992), are organizational processes that utilize the inputs to develop the outputs. Illustrative of this, inputs such as staffing and material are used in a production line to develop a product. Within this context, the production process is a throughput, which acts as an intervening variable when comparing inputs and outputs. Conceivably, there may be times when throughputs are not present and inputs directly impact outputs.

Outcomes are broad, general statements representative of the desired goal of the system. For a public safety agency, it may be a statement such as the existence of a safe community. While clearly a desirable goal from a public safety statement, it is far too vague for use in management or evaluation of a system. Consequently, outcomes are normally clarified by the development of rationally associated outputs, which in aggregate contribute to the aggregate concept enveloped by the outcome statement.

In the research model used in this study, some elements, such as leadership, management and the environment, were systemic inputs. The output of the model was regional emergency response. The systemic goal was a disaster resistant community.

Assumptions of the Research Model

The model of regional emergency response is illustrative of an open systems model, which is associated with the basic assumptions of open systems, which are organizations may be viewed as complex systems, comprised of individual components; individual components of systems may be examined as distinct entities; systems may be component parts of larger systems, referred to as sub-systems; systems are goal oriented; systems may be open or closed; open systems react with their environment and are capable of adaptation to environmental changes; and, open systems are never stable (Kast & Rosenzweig, 1992; Katz & Kahn, 1992).

Conclusions

Modern public administration in the United States is not a simple, exclusive, linear process, nor are many of the services provided by government. Jurisdictional and sectoral boundaries are becoming increasingly conceptual, with formal boundaries becoming perceived as formalities as opposed to real barriers to service delivery. Public administrators must be willing to partner with other governmental entities, vertically and horizontally, while also partnering with the private sector, to effectively and efficiently provide services valued by the populace. These efforts should be made based upon a

comprehensive understanding on the interdependence of all actors in the successful achievement of both group and individual goals.

CHAPTER III

METHODOLOGY

Introduction

Chapter III presents an overview of the research methodology used in this study. It includes information on the research design, the population studied, and on the mechanisms used to collect, process and analyze data.

Research Design

The study was conducted using a qualitative approach, involving the use of both interviews and archival research, which involved an examination of documents related to each team. The research questions sought the perceptions of participants, which required a qualitative approach (Creswell, 2003). Yin (1994) wrote that case studies are most appropriate for the verification of theory, as well as for capturing unique perspectives that might be missed through more quantitative procedures. Consequently, the research utilized case analyses to answer the research questions, permitting an emerging picture of regional emergency response to develop (Cresswell 2003; Huberman & Miles, 1998).

Population and Sample Selection

The research was conducted in Hampton Roads because of the presence of regional emergency response teams that provided a rich source of information, as well as for the convenience of the location to the researcher. Hampton Roads is comprised of the sixteen cities and counties of southeast Virginia. The localities differ greatly in terms of

population, land area and household income (see table 3.1). The emergency management community in Hampton Roads consists of a diverse group of public and private actors engaged in all phases of emergency management. Those focused on the preparation and response phases represent a variety of disciplines and are concerned with diverse issues, including law enforcement, health care, infrastructure protection and hazardous materials control. While the research sought to understand all regional emergency response in Hampton Roads, for purposes of controllability and focus, the study examined two regional emergency response endeavors. Specifically, the research explored a regional emergency response team designed for response to hazardous materials releases, as well as one created to respond to maritime emergency incidents.

Table 3.1: Hampton Roads Communities

<u>City/County</u>	<u>Population (2000)</u>	<u>Median family income</u>	<u>Land area (sq. miles)</u>	<u>Population density, 2000 (per sq. mile)</u>
Chesapeake	199,184	\$56,302	340	586
Franklin	8,346	\$40,299	8	1,043
Gloucester County	34,780	\$51,426	225	155
Hampton	146,437	\$46,110	52	2,816
Isle of Wight County	16,172	\$52,597	316	51
James City County	48,102	\$66,171	153	314
Newport News	180,150	\$42,420	68	2,649
Norfolk	234,403	\$36,891	54	4,341
Poquoson	11,566	\$65,460	16	723
Portsmouth	100,565	\$39,577	33	3,047
Southampton County	17,482	\$31,324	600	29
Suffolk	63,677	\$47,342	400	159
Surry County	6,829	\$41,234	279	24
Virginia Beach	425,257	\$53,242	248	1,715
Williamsburg	11,998	\$52,358	9	1,333
York County	56,297	\$64,892	106	531
Total	1,561,245	-----	2,907	19,516
Mean	97,578	-----	182	1,220

(Hampton Roads Planning District Commission, 2006)

While the study examined a primarily urban environment, Hampton Roads, regional emergency response may include response to major technological hazards, which may be found in differing locales, including rural environs. Consequently, some localities with lower population densities contain high-risk activities in their boundaries, which could greatly impact the region as a whole. Illustrative of this, the City of Chesapeake has several major land and marine transportation routes and is home to numerous chemical, power generation and industrial facilities. York County is traversed or bordered by major transportation routes and is home to a large-petrochemical refinery and a major military weapons stockpile. Neither of these localities have a high population density, especially when contrasted with the more urban cities in the region (see table 3.1). However, because of the presence of unusual hazards throughout the region like these, differing localities have banded together to develop regional emergency response teams based upon identified risk and perceived need, irrespective of population density. Consequently, the study included participants from diverse communities in Hampton Roads, as it focused on the experiences of member organizations in each regional emergency response venture.

The primary unit of analysis for the research was the individual regional emergency response team, using a purposive sampling approach for participant selection within each setting. There are a wide variety of regional emergency management ventures existing in Hampton Roads (see table 1.1). The research focused on regional emergency response teams associated with hazardous materials response and maritime emergencies. This included the Hampton Roads Marine Incident Response Team

(HRMIRT) and the Southside Tidewater Regional Hazardous Materials Response Team (STRHMRT).

The selection of the hazardous materials response team was based on two considerations. First, the STRHMRT has been in existence since the early 1990s so its patterns were well established, greatly lessening the impact of developmental artifact on the findings. Second, as the use and transportation of hazardous materials are ubiquitous in the United States, the findings concerning this form of regional emergency response team may be used as a foundation to understand and explore similar regional endeavors in other parts of the nation.

The selection of the HRMIRT was primarily because of its unusual qualities. Hampton Roads possesses one of the largest ports in the world, creating an unusual challenge for governmental response to disaster. While it is probable that many of the characteristics of regional emergency response team will be similar between endeavors, it appeared that studying the HRMIRT provided a unique opportunity to explore a unique form of regional emergency response in a unique setting. The HRMIRT engaged diverse members from local, state and federal agencies, as well as several private sector entities. Consequently, this portion of the research should expand the body of knowledge with information on an apparently unique entity, which may be used in subsequent research to study other such teams across the nation.

Exploring these two forms of regional emergency response teams provided an understanding of how governmental leaders approach such intergovernmental projects. The hazardous materials function is of interest throughout the United States, as chemical usage and transportation have become ubiquitous to our society. The maritime incident

emergency response network is a unique characteristic of Hampton Roads and other coastal cities, which may illuminate how regions approach challenges unique to their communities. The hazardous materials team was developed for a specific function, specifically for response to a particular hazard, which is a common feature of regional emergency response teams such as those designed for technical rescue, mass casualty or riots. The marine incident response team is designed to respond to a variety of hazards, including structural damage, fire and hazardous materials release, in a specific environment, specifically on a boat or ship. These differences in the teams, and how they played out in the administration of each team, may prove useful for others considering the development of such teams.

Confidentiality

The research involved interviews of public officials about the conduct of their public duties. Consequently, participants had little, if any, expectation of confidentiality. To provide some level of confidentiality for participants, fostering greater candor, where possible, the results and discussion were reported as broad themes and not individual quotes that could be used to identify individuals. To insure there were no inadvertent intrusions upon individual rights or dignity, the processes were pre-approved by Old Dominion University's College of Business and Public Administration Human Subjects Review Committee. Because the research involved interviews of public officials, it was considered exempt pursuant to 45 CFR 46 and did not require review by the university's Institutional Review Board.

The individual interview recordings and transcripts could be used to identify individual participants in this study. To insure the confidentiality of individual participants, the recordings and transcripts shall not be made available unless there is a pressing need associated with future research. In such an instance, if permission to release the materials could not be readily obtained from individual participants, transcripts of the interviews could be made available to those with an identifiable need, but only after the transcripts were edited to remove any information that could be used to identify specific participants.

Data Collection

Data collection was conducted using several qualitative approaches. The primary data collection method was interviews, which are well-suited for identifying and exploring the perspectives of individuals (Adler & Frey, 1998; Creswell, 2003). The number of interviews could not be accurately determined prior to the research, as it was expected additional relevant participants would be identified during interviews (Creswell, 2003; Nagy Hesse-Biber & Leavy, 2006). In addition to interviews, archival research of existing agreements, operational policies and plans and other documents shed greater light on the regional emergency response relationships in Hampton Roads.

The participant selection process was emergent. As within any organization, regional emergency response teams are formally overseen by individuals and not groups. Each regional emergency response venture had an identifiable leader, even if only a nominal one. The hazardous materials teams are regional assets sponsored by the Virginia Department of Emergency Management. The Virginia Port Authority sponsors

the Hampton Roads Marine Incident Response Team. While individual organizational leaders may have had immense influence on the formal and informal relationships within their organizations, making their perceptions of regional emergency response a primary issue in their development and sustenance, it was recognized that many other senior and mid-level officials were likely be involved in the development and sustenance of collaborative emergency response. The broad organization of each regional emergency response venture was similar on cursory examination, but not identical. Consequently, it was not possible to identify potential participants prior to the study using global terms, functions or ranks.

The initial approach was made to the formal head of each regional emergency response venture, as identified through the websites of the Virginia Department of Emergency Management and the Virginia Port Authority. Subsequent interviews were conducted in each organization based upon the responses of their formal leaders, as relevant individuals were identified. Using this referent sampling technique, often known as the snowball technique, participants were included as their identities were ascertained and their relevance to the research questions was assessed (Cresswell, 2003; Huberman & Miles, 1998).

For the purposes of this research, those individuals were generically categorized as organizational officials, meaning those organizational members tasked with approving or administering regional emergency response. This included those individuals tasked with establishing policy, finance, purchasing, training and coordination activities. It did not include first-line supervisors or line employees tasked with conducting daily operations, unless those individuals had been given some special responsibility related to

the administration of the regional emergency response. During the research it became evident that with both teams the organizational officials that worked closely together in the administration of the team referred to themselves as a core group, comprised of the representative sponsoring state agency and agency representative from each of the local fire departments represented on each team.

The process was iterative. In some instances, as information emerged, additional interviews were necessary with employees who were identified by participants as having particular knowledge or specific perspectives relevant to a full picture of each endeavor (Adler & Frey, 1998; Taylor & Bogdan, 1998). For example, this led to an interview with a United States Coast Guard officer tasked as the liaison with the HRMIRT, which is discussed in greater detail in Chapter IV. Additionally, as the information was developed and a more complete image of the phenomenon emerged, several people were re-contacted to seek additional information and clarity, which is common in this form of research (Denzin & Lincoln, 1998; Huberman & Miles, 1998). The process was not to be considered complete until the interviews lead to a sharply diminished development of new information (Creswell, 2003). The same pattern was to apply to all interviews conducted with the local, state, federal and private agencies associated with each regional emergency response venture. In practice, as is described more fully in Chapter IV, interviews were conducted with the core groups of both regional emergency response teams.

The interviews were semi-structured, permitting the researcher to maintain a focus on pertinent information, yet leaving the process sufficiently open for new information and previously unidentified issues to be identified and explored (Adler &

Frey, 1998). Many researchers prefer to keep no notes during the interviews, relying on their memory to generate notes afterward (Cresswell, 2003; Taylor & Bogdan, 1998). This is done to keep the participant from being distracted by the note taking. Others use audio recordings, to document the interviews. The audio recordings are treated differently. Some researchers use them to back-up written notes, using them only as necessary. Others use the recordings to generate written transcriptions of each interview, permitting some form of thematic analysis based on coding and quantitative processes (Huberman & Miles, 1998). Some use the recordings as a means of revisiting the interview, seeking to identify points missed during the initial setting, thereby leading to clarification of the field notes. In this study, the researcher captured data with audio recordings of interviews, if permissible by the participant and feasible within the setting, supported by field notes. As was recommended by the relevant literature, the data collection plan called for transcriptions of the audio recordings, or field notes if audio recordings were not available, to be made as soon after the interviews as practical, insuring no data were lost (Huberman & Miles, 1998).

The characteristics of inter-organizational collaboration (Agranoff & McGuire, 2003; Kettl, 2003; Orfield, 1997; Porter & Wallis, 2002; Wallis, 2007) are largely based on the perceptions of organizational leaders to create and sustain an open, flexible, empowered system. The fundamental characteristics of collaboration revolve around the willingness and ability of organizational leaders to share power and decision making with multiple internal and external stakeholders, maintaining a focus on goal attainment as opposed to protecting individual authorities and focusing on individual gain (Agranoff & McGuire, 2003; Duncan, 1995; Kamensky et al., 2004; Lasker & Weiss, 2003) The

interview questions were designed to identify and examine those perceptions. The interviews were semi-structured, but they were based upon a standard set of questions used as a basis for comparing, contrasting and exploring differences in perceptions. This format facilitated the researcher in keeping participants on topic, preventing the interviews from straying too far from the topic (Cresswell, 2003; Nagy Hesse-Biber & Leavy, 2006; Yin, 1996).

The interview questions were directly linked to the research questions, which were linked to the theoretical framework. If the questions could not be linked, the question was likely not pertinent to the research purpose. The analysis of any available documents followed the same general constraints. The relationships are identified in table 3.2.

Table 3.2: Relationship Between Concepts, Variables and Operationalization

<u>Concept</u>	<u>Variable</u>	<u>Operationalization</u>
Leadership	Goal	What was the perceived need for the inter-organizational effort? What is the goal for the inter-organizational effort? Who established the goal for the inter-organizational effort?
	Entrepreneurial Vision	Was there a specific event that triggered an interest in developing the team? Was an individual, small group, or a large group of individuals identified as a driving force in the development of this inter-organizational effort?
	Unit Identity	How were stakeholders identified? How were stakeholders approached to solicit participation? How are stakeholders retained?

**Table 3.2: Relationship Between Concepts, Variables and Operationalization
(continued)**

<u>Concept</u>	<u>Variable</u>	<u>Operationalization</u>
Management	Legal Enabling	What were the perceived or actual legal constraints to inter-organizational efforts? Did legal issues have an effect on inter-organizational efforts and, if so, what were the effects? How did organizations frame written agreements related to inter-organizational efforts with respect to authorities, responsibilities and liabilities?
	Organization and Management	If there is a formal organizational structure to the team, how were positions of responsibility identified and allocated between member agencies? How were technological communications issues (i.e., hardware and software) addressed?
	Staffing	What would be the rationale for organizations to not seek to provide such specialized services on their own? How does inter-organizational emergency management impact training needs within each organization? Are there specific training criteria for team membership and, if so, how were they created?
Individual Empowerment	Local Sovereignty	How does the desire to retain local sovereignty influence inter-organizational emergency response?
	Individual Goals	How do organizations balance the achievement of their individual goals with the goals of other organizations?
Social ties	Interpersonal Relationships	What is the influence of interpersonal relationships on inter-organizational efforts? Do member organizations support the development and sustenance of interpersonal relationships and, if so, how? How are knowledge management issues addressed?

**Table 3.2: Relationship Between Concepts, Variables and Operationalization
(continued)**

<u>Concept</u>	<u>Variable</u>	<u>Operationalization</u>
Synergy	Increased Service Delivery Capacity	Do involved organizations implement joint planning efforts and, if so, how?
		Do involved organizations develop communal objectives and, if so, how?
		Do organizations address command and control issues associated with multi-organizational inter-organizational and, if so, how?
		What are the greatest benefits, if any, of this inter-organizational effort? What are the greatest weaknesses, if any, of this inter-organizational effort?
Environment	Inter-sectoral Boundaries	Does your organization integrate private sector resources into the inter-organizational effort? If your organization does integrate private sector resources into the inter-organizational effort, why do they do so? If your organization does integrate private sector resources into the inter-organizational effort, how does it do so?
		Do local government boundaries influence the development of inter-organizational efforts and, if so, how? Does the local governing body (i.e., city council or board of supervisors) support inter-organizational efforts and, if so, how? What is the role of the state and Federal governments have in fostering inter-organizational at the local level?
		Hazard specific issues What was the impetus to develop inter-organizational emergency response? What are the perceptions concerning the efficacy of this endeavor to make the community safer?
		Existing relationships What inter-organizational emergency response endeavors exist in Hampton Roads? What new forms of inter-organizational emergency response endeavors should be developed in Hampton Roads?

As regards leadership and management, the relevant literature, as described in Chapter II, suggests an operationalization of leadership relates to those activities associated with developing the team goal, the creation and sharing of an entrepreneurial vision that seeks challenges and opportunities in the environment, and any efforts associated with creating a team identity. The literature on management operationalizes management as those functions directly tied to goal achievement, including the establishment of an organizational structure, identification and compliance with legal mandates, the acquisition and utilization of resources, and the development of control systems to monitor and improve processes (see table 3.2).

The relevant literature on collaboration suggests regional emergency response teams must support individual organization empowerment, which is operationalized as those activities associated with insuring the goals and needs of each locality are addressed. The literature stresses the importance of social ties, noting the critical importance of interpersonal relationships in any type of inter-organizational endeavor, which suggests leaders of collaborative efforts should make positive moves to create or encourage interpersonal contact. The collaboration literature in Chapter II also suggests one of the critical factors in a successful collaborative endeavor is the perception that the outputs achieved together are greater than would be possible by acting alone, which was operationalized as variable related to the value of the program, including a willingness to continue the program if environmental circumstances changed dramatically (see table 3.2).

Finally, the literature on collaboration and the basic precepts of systems theory suggest that regional emergency response teams will be influenced by the environment,

including factors related to inter-sectoral relationships, intergovernmental relationships, hazard specific issues, and existing relationships between organizations. From this perspective, as the system is viewed as open, it is possible that factors outside the control of the teams, such as the economy, may influence the sustenance of the team. Also, it takes into account the perceived success of the team in efforts to maintain or alter levels of support, which is represented by the feedback loop of the model of regional emergency response. These questions were operationalized for the interview as illustrated in table 3.2.

Data Analysis

The data was analyzed using an interpretivist approach, which is often used in qualitative research as a means of analyzing and explaining research findings (Creswell, 2003; Denzin, 1998; Yin, 1994). As noted, the collected data, including the transcribed audio recordings and field notes, were examined and analyzed for consistent themes. As the data collected was comprised primarily of reported perceptions, an interpretivist approach facilitated the researcher in exploring and analyzing the findings for general themes, context, and conflicts between responses and practices (Creswell, 2003). This permitted the development of a description of each regional emergency response venture, in addition to an explanation of why the endeavor was structured in such a manner. This permitted an analysis of the regional emergency response team within the constructs of inter-organizational collaboration.

To prepare the data for content analysis, it was subjected to data reduction. Miles & Huberman (1994) define data reduction as the categorization of responses into distinct

types, providing a more effective framework to conduct the data analysis. The process was emergent, permitting sufficient flexibility to adapt to data collected that did not precisely fit the theoretical framework being used. According to Cresswell (2003) and Miles & Huberman (1994), coding and categorizing information makes the analysis more rationale and provide a framework for presenting the findings. Miles & Huberman (1994) also suggested that the use of a categorization scheme aids in preventing researchers from developing a final report filled with excessive information that is difficult to follow.

The data reduction process required the identification of specific concepts for the creation of the coding system, providing a broad categorical scheme (Miles & Huberman, 1994). The coding concepts were demonstrably linked to the interview questions, which were linked to the research questions, which were linked to the theoretical framework. These relationships were illustrated in table 3.2. However, the process was an emergent one, permitting sufficient flexibility to adapt to data collected that did not precisely fit the theoretical framework being used. For example, some of the participant's responses to one a question were often pertinent to other questions, requiring data intended for one category being included in two or more categories. As opposed to quantitative research where the data categories can more easily be predicted in advance, qualitative coding is usually done in an iterative manner as the data collected is examined and analyzed (Cresswell, 2003; Miles & Huberman, 1994).

To aid in the data reduction process, researches often use some for of thematic mapping to link specific research questions to questions on their data collection instrument (Miles & Huberman, 1994). This permits the research to more easily link

specific responses to specific concepts, and then back to specific research questions. For purposes of this research, a thematic map was created and used to aid in the categorization of collected data. The thematic map for data reduction is shown in appendix B.

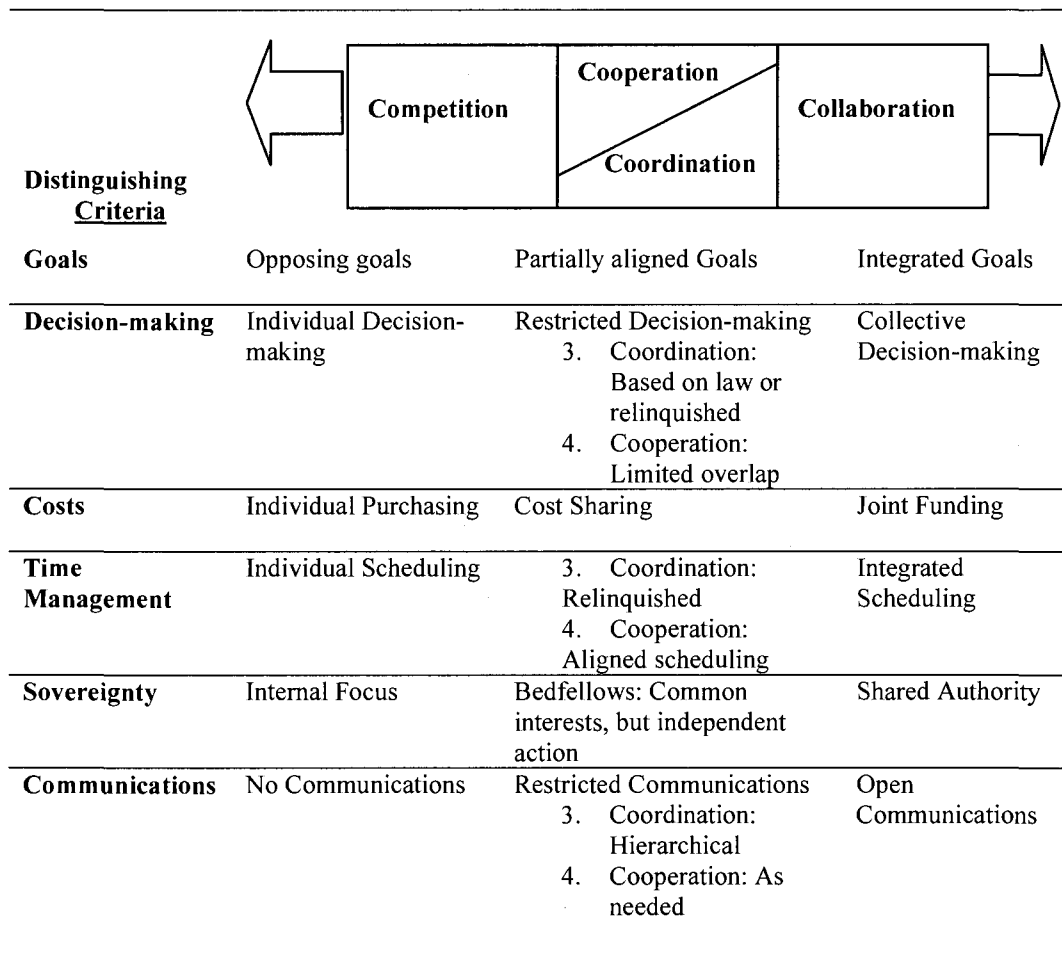
Collaboration-Competition Continuum

The research problem, purpose and questions were all related to the concept of inter-organizational efforts to address a problem in a unified manner. As was discussed in Chapter I and Chapter II, such efforts are typically referred to as collaboration, under a broad interpretation of the term, which was why the literature on collaboration was used as a framework for this study (Agranoff & McGuire, 2003; Kamensky, et al., 2002). However, while the literature and models associated with collaboration were well suited to this research, it was clear that endeavors identified as collaboration may indeed be reflective of other relationships, including coordination, cooperation or competition. It is also likely that no single endeavor is purely reflective of a single relationship archetype, and instead may exhibit characteristics of mixed types.

The differences between the types of relationships were identified and discussed in depth in Chapter II. That information is repeated again in table 3.1. In essence, collaboration involves a full integration of organizational activities; a partnership of equals, which is supported by all of the literature. Cooperation involves discrete entities working towards the same or similar goals, insuring they do not interfere with the efforts of others, but not integrating activities or engaging with other organizations except in a limited manner (Kamesnsky, et al., 2002). Coordination suggests a hierarchical

relationship between organizational components (Drabek, 1990). While such authority is typically associated with some form of legal mandate, in inter-organizational relationships organizations may voluntarily relinquish authority to another agency to create a more formal inter-organizational structure.

Figure 3.1: Collaboration-Competition Continuum



The essential distinguishing factor between cooperation and coordination is that of a hierarchical relationship, with the potential for other characteristics, to be identical. A competitive relationship suggests organizations are working against one another, with

each seeking a mutually exclusive goal, which is essentially the complete opposite of collaboration (Basalo, 2003). For purposes of consistency, the term collaboration has been used broadly in this research, however, it is necessary in analyzing the data to determine if the relationships noted were collaboration, or rather they reflected another form of inter-organizational relationship.

Pilot Test

To assess the viability of the design methodology and the data collection and analysis process, a pilot test was conducted. The pilot test was undertaken with a few interviews of organizational officials from a regional emergency response endeavor not included in the population of the proposed study. The pilot test process was used to fine tune the proposed research processes.

There was some concern with contaminating the participant pool in the primary study by expanding the pilot test without caution. To address this, the participants in the pilot test were selected from another of the collaborative response endeavors identified in table 1.1, which was the Tidewater Regional Technical Rescue Team. Participants were screened to insure their participation would not be needed to study the HRMIRT or STRHMRT. The pilot test was to be limited to between five and ten participants. In the end, five interviews were conducted.

The pilot test did not show any substantive issues with the data collection instrument. It did provide some insight into some procedural issues. It was noted that scheduling was problematic, as interviews had to be conducted when they fit within the administrative schedules of the organizational officials, which often took some time to

establish. The interview process did fit within an acceptable time frame, with the pilot test interviews ranging in length from approximately thirty-five minutes to seventy minutes.

Validation

Validation of qualitative research may be problematic, but there are various means of addressing associated issues (Cresswell, 2003; Merriam, 2002). The information collected and analyzed is presented in a rich narrative format, providing insight into the interpretation of the data. Additionally, portions of the foundational work have been presented at academic conferences or published in academic or professional venues, permitting academics and professionals to examine portions of the foundational material and provide supporting or refuting views. These efforts facilitated a refinement of the process, and supported the interpretation of the collected materials in the study (Poulin, 2005; Poulin 2006a; Poulin 2006b; Poulin 2007a; Poulin 2007b; Poulin 2007c; Poulin, 2008).

Limitations

The research was based on the experiences of agencies in Hampton Roads, Virginia, specifically with those dealing with maritime incidents and the release of hazardous materials. While it is possible that the findings of this report may be reflective of the experiences of localities in other parts of the United States, the qualitative model of this research suggests the results cannot be used as an empirical predictor in similar populations. The research model was based on a case analysis approach, with

propositions being developed and explored in an emergent manner. Such research is wholly dependent on an interpretivist epistemology, making it improbable that another researcher would come to the identical conclusions found in this study. There should be sufficient material in the findings to permit the comparison and contrasting of the experience of fire service agencies in Hampton Roads with similar agencies elsewhere, thereby validating the findings to a limited extent.

The larger, more urbanized cities and counties in Hampton Roads are very similar in development and population characteristics. Their emergency response agencies are relatively similar in terms of unit staffing and capacity. The findings of this report may not be wholly translatable to metropolitan areas that have a more defined central city, characterized by a more pronounced variance between the urbanized area and the surrounding suburban zones, or that are effectively controlled by a single, local government or governmental authority.

The Hampton Roads region has a large military presence, including one of the largest naval ports in the world. Consequently, it is considered a potential target for terrorist attacks and weapons of mass destruction. Such considerations probably impact the perceptions of government officials as to the need for collaborative relationships relative to the consequences of a terrorist event, which may skew the findings of this study towards metropolitan areas with a large military or governmental population.

Lastly, the research is to be conducted in a policy environment that is years past the events of September 11, 2001 and the landfall of Hurricane Katrina. While immediately after the terrorist attacks on the World Trade Center and the Pentagon, and while the flood waters continued to cover New Orleans, the need for emergency

preparation had reached high salience levels in the public mind, that salience is fading. The findings of similar research conducted immediately after a disaster would very probably elicit results that are quite different.

Potential Researcher Bias

Qualitative research is potentially susceptible to researcher bias, especially when the data is examined and interpreted using an interpretivist approach (Denzin, 1998). As noted previously in this chapter, efforts can be made to support the validation of the collected materials and the reported findings. Still, it is considered appropriate for potential researcher bias to be clarified, permitting readers to understand the potential issues associated with researcher bias, using that information for a contextual understanding of the study and its findings.

The author of this report has been engaged in local emergency response since 1977, serving in various roles in several career and volunteer organizations in several states. During that time, he was a member of the STRHMRT from late 1990 through early 1993, certified as a Hazardous Materials Specialist. He has not been associated with the team for over sixteen years, and was not a member of the team during its formative years. He has had, however, an intermittent professional relationship with many of the members of the team in the past, including several of those interviewed.

The author has never been a member of the HRMIRT, though he did attend two of their annual symposiums in the early 1990s. Although he has never been a member of the HRMIRT, he had had a professional relationship with several of the team members interviewed during the conduct of this research.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

Chapter IV presents the information collected according to the research methodology described in Chapter III. The research methodology involved a qualitative approach, involving interviews of the leaders of two regional emergency response teams in Hampton Roads, Virginia, in addition to a review of the foundational documents for each team. The literature review in Chapter II suggested qualitative research methods are typically viewed as an appropriate way to explore new or little studied phenomena, especially when the research is related to the perspectives of individual participants (Cresswell, 2003; Huberman & Miles, 1998; Yin, 1994). The relevant literature also suggested that semi-structured interviews are an effective and appropriate means for collecting information concerning the perceptions of participants, while the use of archival documents would provide deeper insight into the formal underpinnings and processes of each organization (Cresswell, 2003).

The research procedures called for the initial interview of each team to be conducted with the formally identified leader of each venture. At the close of the interview, the formally identified leader of each regional emergency response team was asked to identify those people he worked with on a regular basis in the administration of the team. The people to be identified were those associated with the administration of the team, and not those engaged in routine daily operations. Subsequent interviews were conducted with the people identified by each participant, who were also asked to name those they regularly engaged with in team administration. Using this iterative procedure

permitted the researcher to develop a list of participants, while simultaneously verifying those involved in the administration of each team, as was discussed in greater detail in Chapter III (Cresswell, 2003; Huberman Miles, 1998).

The organizations involved in each regional emergency response endeavor are listed in table 4.1. With one exception, each of the organizations listed are formal member organizations in the endeavor. A representative of the United States Coast Guard (USCG) was interviewed, as many of the participants noted they had worked closely with that federal agency at various times, which is discussed in greater detail later in this chapter.

Table 4.1: Organizational Components of Collaborative Endeavors Studied

Southside Tidewater Regional Hazardous Materials Response Team	Hampton Roads Marine Incident Response Team
Virginia Department of Emergency Management (Sponsoring agency)	Virginia Port Authority (Sponsoring agency)
Chesapeake Fire Department	Chesapeake Fire Department
Norfolk Fire-Rescue	Hampton Fire Department
Portsmouth Fire Department	Newport News Fire Department
Virginia Beach Fire Department	Norfolk Fire-Rescue
	Portsmouth Fire Department
	United States Coast Guard (Associated agency)
	Virginia Beach Fire Department
	York County Fire and Life Services

The interviews were conducted between November 10, 2008, and December 27, 2008. The interviews ranged in length from approximately 25 to 75 minutes, with a mean of 46 minutes. When possible, the interviews were conducted in the work places of the participants, insuring they were comfortable in their surroundings, which the relevant literature in Chapter III suggested should have supported a more open and honest response (Creswell, 2003; Yin, 1994). In two instances, interviews were conducted in

municipal libraries at the request of the participant, based on the convenience of travel for the participant. According to both Creswell and Yin, such neutral environments are also appropriate for placing participants at ease.

As described in Chapter III, the interviews were conducted using a questionnaire crafted to solicit specific information (see appendix A). The interviews were audio recorded, supported by documentation with field notes on the interview instrument. As predicted by the research literature, there were some technical problems with some of the recordings, as well as one instance that could not be audio recorded. For the interview with the United States Coast Guard liaison, the interview was conducted in a secure conference room on a military base and recording devices were specifically prohibited. To provide for such contingencies, copious notes were taken of all interviews. The notes were used to verify thoughts, and served as an alternative form of documentation, when needed.

The data analysis was conducted using a qualitative approach. Broad themes were identified from the relevant literature, the collected responses, and the foundational documents of each team. The data was reduced into specific thematic categories and, based upon the data reduction processes described in Chapter III, responses to the secondary and primary research questions were developed using an interpretivist approach. The thematic mapping used for this was discussed in Chapter III, with the thematic map provided in appendix B.

Overview of Regional Emergency Response Teams

The responses to all questions, when examined in their totality, provide a deeper understanding of each team. To provide context for the reader as they progress through Chapter IV, it was decided a brief overview of the regional emergency response teams was appropriate.

Hampton Roads Marine Incident Response Team

The Hampton Roads Marine Incident Response Team (HRMIRT) is a regional emergency response team comprised of representatives from state and local agencies. Its mission is to provide, as needed, expertise, specialized equipment and trained personnel for maritime incidents in the region. The HRMIRT is formally part of the Virginia Port Authority (VPA), falling under the Director of Port Security and Emergency Operations, but it does not provide a full-time staff. The Director of the HRMIRT is a part-time position, currently held by William Burket, with the HRMIRT itself comprised of components supported by other organizations.

The HRMIRT was originally developed in the mid-1980s as an advisory group, slowly evolving into a response organization by the mid-1990s. The team currently has 131 members. According to HMIRT Director William Burket (personal communication, March 27, 2009), the HRMIRT is activated approximately six times each year.

Burket stated the most significant incident the HRMIRT has responded to since its inception was a fire aboard the M/V Hough Duke, which was anchored 13 miles off of the coast in October 1994. The HRMIRT was activated for a fire in one of the cargo holds of the vessel. Personnel from the HRMIRT were involved with the incident for the next five days, providing expertise and specialized assistance to those commanding the

incident. The most significant incident the HRMIRT responded to in the last three years was an engine room fire on the Maersk Doha, located at an anchorage in the Chesapeake Bay. Burket reported there had been nearly a total loss of the engine room due to a mechanical failure and, had the vessel sunk or caused a major oil spill, would have closed one of the largest shipping channels into the Chesapeake Bay, while simultaneously causing major environmental damage in the region.

The HRMIRT is led by a self-described core group composed of the Director of the HRMIRT and the agency representatives of the Chesapeake Fire Department, the Hampton Fire Department, the Newport News Fire Department, Norfolk Fire-Rescue, the Portsmouth Fire Department, the Virginia Beach Fire Department, and York County Fire and Life Services (William Burket, personal communication, November 6, 2008). At the time of this research, Burket filled two roles, serving as both the Director of the HRMIRT and as the agency representative for the Virginia Beach Fire Department. Each member agency houses and maintains specialized equipment, and insures selected personnel are trained in marine firefighting operations. In the event of an emergency, each agency is expected to provide the specialized equipment and trained personnel for a collective response, if possible.

Interviews were conducted with all members of the identified core group, representing the entire population of the HRMIRT leadership team. Additionally, based on numerous references to the United States Coast Guard (USCG), an interview was conducted with the USCG liaison between the 5th District of the USCG and the HRMIRT. While the USCG is not a formal member of the team, its liaison reportedly

serves a significant advisory role to the core group. The interview with the USCG liaison served to provide a more expanded view of the HRMIRT.

Southside Tidewater Regional Hazardous Materials Response Team

The Southside Tidewater Regional Hazardous Materials Response Team (STRHMRT) is a regional emergency response team focused on responding to hazardous materials incidents. The STRHMRT was created in 1989. It currently has 101 members, and is activated approximately six times each year. Its mission is to respond to hazardous materials (HAZMAT) incidents of perceived size or severity that appear to exceed the response capacity of any individual locality. It is a state asset, supported by the Virginia Department of Emergency Management (VDEM) Technological Hazards Branch. In practice, oversight of the STRHMRT is vested in Ray Haring, one of VDEM's HAZMAT Officers.

According to Ray Haring (personal communication, March 27, 2009), the most significant incident the STRHMRT has responded to since its creation was a large fire in a Southern States warehouse in the mid-1990s, which held vast quantities of hazardous materials. The warehouse, located in Chesapeake, VA, is located next to a major highway and the southern branch of the Elizabeth River, with a mixture of residential and industrial areas nearby. The STRHMRT personnel provided assistance not only in fire suppression activities, but in monitoring the air for possible migration of toxic fumes, and insuring that no contaminants running off from the fire entered the nearby Elizabeth River.

In the past three years, the most significant activation was a partial activation, utilizing the teams from Chesapeake and Portsmouth. The incident involved a leak from

a 14-million gallon tank of liquefied propane, located in Chesapeake, VA. The tank was located near major road and rail routes, sat next to the Elizabeth River, and was located directly next to a major electrical power generating plant. The STRHMRT provided technical expertise and operational assistance to those commanding the incident for several days. Had there been a catastrophic failure of the tank, or had the leak become significantly worse and ignited, the impact on the community would likely have been severe.

Similar to the HRMIRT, the STRHMRT is comprised of locally based components, which in this case are the independent HAZMAT teams from the cities of Chesapeake, Norfolk, Portsmouth and Virginia Beach. Portsmouth is usually referred to as the lead team, and has contractual obligations above those of the other cities involved with the STRHMRT. Essentially, while all teams are required to provide trained personnel for a regional HAZMAT response, Portsmouth is tasked with housing and maintaining the vehicles, equipment and disposable supplies provided by VDEM or purchased with VDEM funds.

Interviews were conducted with Haring and the leaders of each local team comprising the STRHMRT, which comprised the entire population of the STRHMRT formal leadership. Additionally, an interview was conducted with Richard Parker, the VDEM HAZMAT Officer assigned to an office in Newport News, VA. Parker serves a role similar to Haring for another VDEM-supported regional HAZMAT team. When the STRHMRT was formed, Parker was the VDEM HAZMAT Officer assigned to it. Several of the participants referred the researcher to Parker for information associated to the

founding of the team, which supported a greater understanding of the dynamics of the team at its inception.

Archival Research

The research methodology included a review of foundational documents for both the HRMIRT and the STRHMRT. Such documents provided a context for understanding the formal nature of each team, as well as providing detailed information concerning the formal structure and administrative processes of each endeavor. The information garnered from the document review is included in the answers to specific research questions.

The HRMIRT documents studied in this research, provided by Burket, included the original *Operational Procedures for the Hampton Roads Maritime Incident Response Team* and the *HRMIRT Letter of Appointment*, which are undated. According to HRMIRT Director Burket, they were written shortly after the founding of the team in 1989 (William Burket, personal communication, November 6, 2008). Additionally, the research included a review of the *Hampton Roads Maritime Firefighting Contingency Plan*, dated March 2002, and a current working draft of a *Marine Incident Response Team Memorandum of Agreement*, which was provided by Burket during his interview.

The STRHMRT documents studied in this research included the contract dated August 31, 2004, between VDEM and the cities of Portsmouth, Chesapeake, Norfolk and Virginia Beach, which was provided by Virginia Beach Battalion Chief John Harvey. Harvey reported this was the contract in force at the time of the research, as the review process occurs approximately every four years (John Harvey, personal communication,

November 12, 2008). Additionally, the research involved an analysis of the *Southside Tidewater Regional Hazardous Materials Response Team Standard Operating Procedures*, dated February 3, 2004, provided by Ray Haring, which he stated are the procedures currently in effect, though they were due for a cyclic review and potential revision at the time of this study (Ray Haring, personal communication, November 10, 2008).

Table 4.2: Documents in Archival Research

<u>HRMIRT</u>	<u>STRHMRT</u>
<i>Hampton Roads Maritime Firefighting Contingency Plan,</i>	STRHMRT contract
<i>HRMIRT Letter of Appointment</i>	<i>Southside Tidewater Regional Hazardous Materials Response Team Standard Operating Procedures</i>
<i>Marine Incident Response Team Memorandum of Agreement (Draft)</i>	
<i>Operational Procedures for the Hampton Roads Maritime Incident Response Team</i>	

Response Tabulation

The interview instrument was not structured to provide a framework that permitted participants to indicate agreement or disagreement with specific issues, but instead permitted them to respond in a more open manner. While this facilitated the solicitation of perspectives in an open manner, it did not support a process wherein tabulations of responses can be made reliably. Essentially, while it is possible to note when individuals did respond in a positive manner, the absence of a specific response does not necessarily indicate a negative response. Instead, the presence or absence of specific responses is suggestive of what the individual participant considered the most salient aspect, based on their perspective. The data must be examined cumulatively to

understand each team, as well as to understand the responses to the primary and secondary research questions. However, the researcher believed some information on specific issues might aid the reader in developing a better understanding of the interpreted data. Therefore, a table is provided in each section related to a secondary research question, which illustrates the responses to selected specific issues.

Each of these tables provides the number of potential responses to selected issues, based on the number of individuals interviewed. Illustrative of this, there were seven interviews conducted with representatives of the HRMIRT, one for each of the organizations comprising the regional team. Burket, who filled two positions, including the HRMIRT Director and the agency representative of the Virginia Beach Fire Department, was interviewed only once.

While the responses of the United States Coast Guard liaison, Kevin Saunders, were included in the findings and considered in the conclusions, when appropriate, his responses were not included in all of the tabulated responses. The USCG is a separate agency that is associated with the HRMIRT, but is not a formal member of the regional team. As he did not represent a member agency formally involved in the regional endeavor, many of the questions were not relative to Saunders' situation. For example, the USCG does not solicit members to be on the team, nor require USCG personnel to acquire HRMIRT training. The USCG does not purchase equipment for the HRMIRT, nor does the HRMIRT purchase equipment for the USCG. Consequently, those questions were not relevant to the USCG. When Saunders' responses were relevant to the study, providing greater insight into the HRMIRT, they were included in the tabulations. In those instances, the potential responses for the HRMIRT could total eight.

There were five interviews conducted for the STRHMRT, representing each of the five member agencies. Consequently, there are, at maximum, only five possible responses possible in the tabulation. Richard Parker of the VDEM was interviewed concerning his relationship with the STRHMRT at its inception, but was not included in the response tabulations provided in each table. Aside from the fact he is not currently involved with the STRHMRT and his perspectives of current practices may be dated, if his responses were included with those of Haring, it would inflate the perspective of the VDEM in the overall results, as they both are employed with that agency.

Secondary Research Questions

The secondary research questions were directed towards specific elements of the research model. The purpose of secondary research questions is to permit the research to focus on specific sub-topics related to the primary research questions, while simultaneously providing a means for framing the research and categorizing the responses, as discussed more deeply in Chapter III. The research questions were directly linked to the individual perceptions of each participant. In qualitative research, the perceptions of participants in any endeavor are vital to understanding how participants understand and react to differing issues. In combination, they created the foundation for answering the primary research questions by developing a deeper understanding of each team.

Secondary Research Question One

How is leadership perceived to impact regional emergency response?

Within the context of the relevant literature and the research model described in Chapter III, leadership was conceptualized as those activities associated with the development of team goals, establishing an entrepreneurial vision aimed at identifying and capitalizing on new opportunities, and the development and sustenance of a distinct team identity (Aamodt, 2007; Burns, 1978; Heifitz, 2006). Specifically, the literature on leadership suggested leadership was associated with establishing a clear, shared vision for all those engaged, efforts to move into new areas or to take advantages of opportunities in the environment, and activities associated with making all involved feel they were intrinsically vital to the overall success of the team. These concepts were operationalized into questions, for purposes of this research (see table 3.2). Questions 1, 5 and 6 of the interview instrument focused on goal development. Questions 1 and 5 related to the entrepreneurial vision. Questions 3, 4 and 7 were associated with unit identity issues. These questions explored how leadership activities influenced each team.

Within the context of the model of regional emergency response teams, leadership has an influence on the development of factors considered critical to success of the endeavor (see figure 1.2). Specifically, the research considered how the elements of leadership influenced the development and sustenance of the critical factors of individual organization empowerment, social ties, and synergy, as described in Chapter III, for each of the two regional emergency response teams. Table 4.3 illustrates several selected responses to questions on leaderships, which are discussed further in this section.

Table 4.3: Selected Responses Related to Leadership

Responses by Regional Emergency Response Team (# of responses / # possible)			
<u>Selected Issues</u>	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Creation based on perceived need	8/8	3/5	11/13
Creation based on history of incidents	2/8	2/5	4/13
Creation based on legislative mandate	0/8	4/5	4/13
Team goals developed by participants	7/7	2/5	9/12
Team goals developed by external agency	0/7	5/5	5/12
Purpose was to share costs	0/7	5/5	5/12
Seeking new relationships/members	7/8	0/5	6/13
Not seeking new relationships/members	0/8	5/5	5/13
Training programs facilitate networking	5/8	5/5	9/13

Goal development

In the leadership literature, goal development is associated not only with the development of a goal, but the development of a goal that encompasses the needs of all those engaged (Ghani, 2006; Gratton, 2005; Heifitz, 2006). It involves the inclusion of their desired outcomes, which is usually developed through their engagement in the goal development process. Such activities are vital because, as noted in Chapter II, if individual or organizations believe their needs are unmet or marginalized, they may withdraw from the process or fail to become actively engaged.

According to the original guidelines of the HRMIRT, the stated purpose of the team was to serve in an advisory capacity to incident commanders dealing with maritime emergencies, making recommendations as appropriate, but not filling any operational role. The current documents for the team do not include a formal goal statement. Several

participants reported the team is currently developing standard operating procedures that will include a formal goal statement, but it is unclear when that project will be completed (William Burket, personal communication, November 6, 2008). Despite the absence of a formal goal statement, there is general agreement among those interviewed concerning the purpose of the team.

When interviewed, all of the representatives of the HRMIRT echoed similar responses, mirroring the purposes identified in the original guidelines. The majority agreed the original vision was to have a pool of experts in various fields, including fire fighting, hazardous materials, emergency medical services, shipboard fire suppression systems, and affiliated fields, who would respond, when requested, to provide advice and guidance to local emergency responders. There was a consensus among respondents that although the team had originally been formed as an advisory group, it had evolved into a functional response team, capable of providing specialized equipment and specially trained personnel, instead of remaining a repository for technical expertise, which is perceived to have greatly increased the marine firefighting capacity in the port of Hampton Roads. Indicative of this, Lieutenant Commander Kevin Saunders, the liaison between the 5th District of the USCG and the HRMIRT, stated he believed the port of Hampton Roads was much better prepared for maritime emergencies than many other ports in the country (Kevin Saunders, personal communication, December 1, 2008).

There had been no single large-scale incident, nor string of smaller emergencies, that led to the development of the team. Instead, those involved in the development of the team in the early stages recognized the potential for such emergencies in the port, as the majority of the HRMIT participants noted (see table 4.3). They also perceived that the

resources necessary for the successful resolution of many maritime emergencies in the port were lacking, suggesting the development of the team was a worthwhile goal. Reportedly, the event that led to this was not an emergency incident, but instead was a training session (William Burket, personal communication, November 6, 2008). In the mid-1980s, the USCG sponsored a shipboard firefighting symposium in Hampton Roads. Shortly after attending the course, Burket was considering how best to approach the perceived problem. Contacting others who had attended the course and discussing the possibilities, the concept of the HRMIRT was born.

All those interviewed responded Burket had essentially established the original goal, but that it has been continuously examined and modified throughout the years as a culmination of group discussions by agency representatives of the core group. The process has apparently been directed from the bottom up, with lower ranking personnel from each agency taking the lead in all such efforts. Several respondents indicated the goal is currently under review again as the HRMIRT is developing its first set of standard operational procedures, noting that this effort is a long-term process with all members of the core group deeply engaged, as all HRMIRT participants recognized (see table 4.3). Their responses suggest that the core team is working closely to develop a sufficiently comprehensive goal that will encompass all-hazards, instead of just the shipboard firefighting upon which they initially focused.

In contrast to the local vision that led to the development of the HRMIRT, all of the respondents from the STRHMRT reported it was developed in a top-down manner (see table 4.3). In 1986, the United States Congress enacted the Superfund Amendments and Reauthorization Act (SARA). Title III of the act, also known as the Emergency

Planning and Community Right-to-Know Act, called for all state and local governments to have a HAZMAT response capacity, or plans to provide for such a capacity (United States Environmental Protection Agency, 2000; United States Environmental Protection Agency, 2000). According to both Haring and Parker, the Virginia House of Delegates explored the issue from the perspective of the state government, seeking to determine how the state could fulfill the legislative mandate imposed by Congress. A legislative committee recommended that instead of developing a new capacity, the Commonwealth should contract with existing HAZMAT teams created by local governments (Ray Haring, personal communication, November 10, 2008; Richard Parker, personal communication, December 15, 2008). The task of implementing this program of regional HAZMAT teams fell to the VDEM, which was then known as the Virginia Department of Emergency Services. There are fourteen VDEM-sponsored HAZMAT Teams in the Commonwealth. As state assets, the VDEM assumed the lead in developing the contracts that created the regional HAZMAT teams, including the development of the goals. The formal goal of the STRHMRT is, as noted in the contract:

...to protect the environment and the health, safety, and welfare of the people of the Commonwealth from the dangers and potential dangers of accidents and incidents involving hazardous materials by entering into a cost-sharing agreement for the City to provide hazardous materials emergency response with the southeastern area of the Commonwealth.

When interviewed, most respondents were generally familiar with the goal and noted that it was included in the language of the contract. The consensus of those interviewed suggested the goal was established by VDEM prior to the formation of the team and that it was not truly open to debate or discussion at the local level.

Entrepreneurial Vision

For purposes of this research, based on the relevant literature, the variable of entrepreneurial vision was operationalized as those efforts directed at seeking out new opportunities and new relationships (Aamodt, 2007; Kamesnky, et al., 2002; Kanter, 1996). The literature also suggested this should be a joint effort, engaging the perspectives of others, seeking to leverage the needs and capacities of all involved in the collaborative effort (Ghani, 2006; Kanter, 1996).

The HRMIRT has a clear goal, as noted previously. However, the goal has evolved over the years. When the HRMIRT was founded, all respondents agreed the goal was to provide a pool of experts to aid in marine firefighting (see table 4.3). The HRMIRT has expanded that mission to include an operational component, providing local governments with specialized equipment and specially trained personnel for marine-based incidents. While the original intent was to focus on shipboard firefighting, they have become involved in many incidents in the maritime environment. This includes grounded vessels, HAZMAT incidents, rescue from confined spaces on ships, and assistance with shipboard medical incidents. Although some of these incidents stretch the capacities of the HRMIRT, they have sought to provide assistance to the greatest extent possible, even if all they are capable of achieving is providing a communications link to other organizations with the specialized resources needed to achieve operational success on a given incident.

The HRMIRT actively pursues new relationships, as noted in table 4.3. While the team was initially focused on the port of Hampton Roads, they have made efforts to engage in incidents further up the Chesapeake Bay, entering what the USCG considers

the port of Baltimore, and further up the James River, towards the port of Richmond. The HRMIRT is also seeking participation in the HRMIRT from those localities bordering these waters. In addition to seeking out new partners among the response community, the HRMIRT has made efforts to engage with private sector resources, which is discussed later in this chapter.

An example of the entrepreneurial spirit associated with the HRMIRT is their experience developing a shipboard firefighting symposium. The comments of one participant reflected a belief the HRMIRT had continuously moved forward, seeking new opportunities over the years. The participant noted:

The symposium is a state-accredited course through the Department of Fire Programs. It was originally developed through the core group¹⁶ (or) 17 years ago, which is when we started, to bring the land-based firefighters in our area...up to speed and make them familiar with shipboard construction. It has since grown into...an international (program) because we have folks coming in from overseas, but it was just developed based on the core group...as far as needs in the area and the difference between structural firefighting and marine firefighting.

The STRHMRT is less entrepreneurial than the HRMIRT, but to some extent this is by design. The STRHMRT was created as a state asset at a time when most local governments did not have a robust HAZMAT response capacity, but that has changed over time. It is quite common for most local governments to have a HAZMAT response capacity today, perhaps a robust internal team capable of handling most incidents likely to occur within their individual locality (Ray Haring, personal communication, November 10, 2008). In addition to this growth in local HAZMAT teams, when the VDEM originally established the system of HAZMAT teams across the Commonwealth, each team was given its own territory, which mirrored the operational territories of the VDEM HAZMAT officers. Consequently, the STRHMRT has not perceived a need to expand its

mission or its relationship, or to significantly increase the capacity of any given team.

When asked directly, several respondents stated there were no plans to expand the member organizations of the STRHMRT now, or in the foreseeable future. Haring did note he believed VDEM should consider pursuing more regional teams, but his concern was focused more on reducing the response times to peripheral areas than towards engaging more organizations.

Unit Identity

The relevant literature on leadership suggests one important characteristic of leadership is the ability of leaders to create a team identity among the distinct personalities or components of a team (Burns, 1978; Schein, et al., 2006). Essentially, if one want a group of people to act in concert effectively, they must view themselves as a distinct unit; a team. Engaging team members in planning, training and management is an important facet of developing a unit identity (Ghani, 2006; Kanter, 1996). It is also important to engage the right members at the start, insuring those involved have a common or aligned goal (Cigler, 1994; Duncan, 1995). At a more basic level, one might argue a more visible means of illustrating team identify is something as simple as providing uniforms. Consequently, questions associated with unit identity explored efforts to create or sustain a unit identity using both tangible and intangible means.

There does not seem to be any marked effort on either team to fully engage all members in joint planning efforts. The HRMIRT participant responses suggest the HRMIRT Director makes concerted efforts to reach out to the core group using e-mail and phone calls, but there seems to be no process to bring them together on a regular basis for discussions, although it does happen occasionally. The participant responses for

the STRHMRT reflect a common thread to the HRMIRT, with the VDEM HAZMAT Officer acting as the facilitator, though one participant stated he had been with the team nearly two years and could not think of anything that required group discussions except for recent discussions on how to equitably disperse a one-time grant provided by VDEM.

There seems to be recognition on both teams that a cycle of regularly scheduled meetings would be beneficial in building relationships and facilitating increased participation, but aside from brief interchanges held intermittently at their respective quarterly training session, such meetings have not yet developed. It should also be noted that the meetings that are held, and the meetings they desire to hold, would be solely for the core group and neither team is considering holding meetings for all members. While this might support more engaged decision-making, it would not necessarily be a format that supported the development of unit identity among all members, which is considered a characteristic associated with collaborative leadership, as discussed in Chapter II. As illustrated in table 4.3, the majority of the respondents believed that quarterly training provided a valuable means of facilitating networking between team members.

The VDEM does hold an annual meeting for HAZMAT team leaders from across the state. The purpose of the meeting is, reportedly, to provide updated information on policies, procedures and new programmatic initiatives of the VDEM (Richard Parker, personal communication, December 27, 2008). However, the focus of these meetings is on the statewide program, which involves fourteen regional teams, and the STRHMRT is represented only by the VDEM HAZMAT Officer and the Portsmouth Fire Department HAZMAT team leader. This suggests these meetings serve little benefit, if any, in developing a unit identity for the STRHMRT.

The HRMIRT provides standardized personal protective attire and uniforms to set their team apart. Personal protective attire includes such items as hard hats, gloves, eye protection and jumpsuits. The standardized personal protective attire provides not only for the safety of workers, but provides a distinctive visual identity to team members engaged in administration tasks on the part of the HRMIRT. Some of the personal protective attire items are essentially duplicative of what individual fire departments had acquired for their personnel, but wearing the HRMIRT attire during operational activities helps to provide a distinctive look and could potentially support the development of a team identity. The HRMIRT uniforms are essentially casual uniforms, with the most visible distinctive component being the golf shirt with the HRMIRT logo over the left breast. These uniforms are typically not worn for response. They are usually reserved for meetings and administrative functions. For purposes of this research, the importance of the standardized personal protective attire and the uniforms are that they reflect an attempt to influence employees of separate organizations to think of themselves as a single organization, albeit worn only transiently.

The STRHMRT does provide standardized personal protective attire for team members. This involves a hard hat, a fire-retardant jumpsuit, gloves and a gear bag. While on a regional HAZMAT incident, the hard hat and fire-retardant jumpsuit are for use, as needed, under the chemical protective clothing. The chemical protective clothing used by the STRHMRT does provide a uniform appearance for those in it, but typically there are relatively few members of the STRHMRT making an entry into an environment involving dangerous or potentially dangerous levels of HAZMATs. Many of the personnel play a support role, which may require no specialized attire at all.

Consequently, there is usually no means of visually distinguishing between members of the STRHMRT on an incident from employees of their individual departments who are also on the scene.

The individual components of the STRHMRT do provide for some means of establishing team identity, distinguishing the members of a local HAZMAT team from other members of their departments. This takes many forms, but generally includes distinctive uniform patches, a distinctive ball cap, or departmental t-shirts with a banner or label indicating the wearer is a member of the HAZMAT team. The Portsmouth Fire Department provides extra points towards promotion for any member of the HAZMAT team, based on their HAZMAT training certification level. Several of the departments provide a financial stipend to personnel, based on either membership in a specialty team, or for achieving and maintaining a specialized training certificate.

Both teams use a common approach to training. Each team seeks to send personnel to a specialized training program within one year of entry onto the team. This training involves people from all of the localities, as well as personnel from other localities, but who are not part of the teams in Hampton Roads. Both teams use a quarterly training format for on-going training, coming together for an all day drill four times a year. On occasion, each team incorporates a brief meeting into the quarterly drill, but it is done as an exception as opposed to a rule. By all reports, there are no other efforts made to bring team members together for open discussions, networking, or team building exercises. Ideally, the relevant literature suggests that any activity that brings team members together and permits them to interact will aid in developing interpersonal

bonds, which will in turn strengthen the development of a team identity, which is, in turn, associated with the development of a collaborative venture.

Conclusions on Secondary Research Question One

Based on these findings, leadership appears to have a marginally greater influence upon the HRMIRT than upon the STRHMRT. The HRMIRT developed its own goal and has made efforts to reexamine and modify it over the years. These efforts have engaged the members of the core group, which is important to support the development of the individual organization empowerment of the model of regional emergency response (Burns, 1978; Heiftize, 2006; Ivancevich & Matteson, 1996; Kanter, 1996). In contrast to the HRMIRT, there does not appear to be any perceived need to review and alter the goal of the STRHMRT.

The HRMIRT exhibits a more entrepreneurial spirit, continually seeking to expand its operational scope and develop relationships with public and private sector organizations that will aid it in goal achievement, which is considered a significant factor in developing synergy and in developing social ties (Aamodt, 2007; Burns, 1978; Kanter, 1996). The HRMIRT has made some effort, though minor, to provide some sense of unit identity through the issuance of uniforms and personal protective attire to be worn on all incidents, but the STRHMRT has not.

The literature states an important function of a leader is the development of shared goals that meet the needs of all those involved (Aamodt, 2007; Goldsmith, et al., 2003; Guffey, 2003; Porter & Wallis, 2002). The goal for the STRHMRT was developed by the VDEM during the development of a system of regional HAZMAT teams for the state. Members of the STRHMRT reportedly had no role in goal development, which the

literature considers antithetical to effective leadership (Burns, 1978; Heifitz, 2006; Kanter, 1996). It should be noted, however, that STRHMRT participants do not seem to take issue with not having a role in goal development, as they believe the goal of the STRHMRT is sufficiently clear, comprehensive and shared to meet their needs.

As noted above, the STRHMRT does not seek to expand its role, nor does it appear to be open to engaging new member organization. To some extent, this is because of the structure imposed upon the system of regional HAZMAT teams by the VDEM. By providing a regional team for all areas in the state, and by specifying the team membership through contractual means, there is little opportunity for the STRHMRT to take an entrepreneurial approach, which is at odds with the relevant literature on characteristics associated with effective leadership (Aamodt, 2007; Burns, 1978; Guffey, 2003; Kanter, 1996).

The relevant literature on leadership suggests that leaders should make purposive efforts to develop social ties among members (Burns, 1978; Schein, 2006). Neither the HRMIRT or the STRHMRT appears to make significant efforts in this area. Neither regional emergency response team makes concerted efforts to create or sustain social ties, though both groups have developed a strong sense of unit identity, suggesting the importance of individual members having a strong internalization of the mission of their team (Agranoff & McGuire, 2003; Cigler, 1994; Duncan, 1995; Kamensky, et al., 2004; Lasker & Weiss, 2003).

Both the HRMIRT and the STRHMRT hold limited meetings to provide for open discussions, and the meetings that are held are for the core group alone, not intended to be inclusive of the full membership of the team. The participants from the STRHMRT

reported addressing many issues one-on-one with the VDEM HAZMAT Officer, as opposed to addressing issues with the entire group. The participants from the HRMIRT also reported working one-on-one, or in small groups, but they also seemed to agree that much of this involved working with other team leaders and not necessarily with the HRMIRT Director. The literature suggests that effective collaboration requires free and open discussion among all those involved, which is not evident in either team (Ghani, 2006; Kanter, 1996; Lasker & Weiss, 2003). The use of a hierarchical system of communications reliant on electronic communications appears to be unsupportive in building the interpersonal relations considered necessary for collaboration (Drabek, 1990; Ghani, 2006; Gratton, 2005; Heifitz, 2006; Levine, 1998; Waugh, 1996).

It should be noted, however, that among the team leaders interviewed, all seemed to consider themselves a distinct unit. Bennis & Biederman (1997) and Hamilton, et al. (2004) suggested that great groups may be viewed as distinct sub-groups within an organization, at once both part of the whole and a separate entity. While they mirror many of the aspects of their primary organization, they develop a distinctive mindset and culture that differentiates them from others. Bennis & Beirderman suggested that such groups essentially build bridges between their sub-group and their primary organization, but that communications and movement between the entities is restricted.

Illustrative of this concept, in the responses of many of the participants representing both teams, they referred to their regional emergency response team as a “we” distinct from their primary organization, suggestive of an environment reminiscent of the writing of Bennis & Biederman (1997) and of Hamilton, et al.(2004). This particular facet was not studied in great depth in this research, which makes any

presumptions about the existence of such an environment highly speculative. Regardless, it is noteworthy that despite not taking many actions focused specifically on the development of a distinct unit identity, it appears to have developed in both teams, at least at the team leadership level, which suggests that even if leadership did not influence its development, it has not hindered it either, which may be just as valuable in the long term.

The responses of all participants suggest their strong belief their efforts have made the region better prepared for disaster, with the synergy created by combining efforts considered a contributing factor. Ruchelman (2000) and Schmoke (1996) both wrote of the importance of differing localities understanding their mutual interdependence in meeting complex goals. Such appears to be true in this instance, as there were repeated comments on the perceived benefits associated with participation in regional emergency response teams. This focus on the mission of each regional emergency response team, and the concurrent belief the mission has largely been achieved, may be an important factor in the development and sustenance of a unit identity (Cigler, 1994; Guffey, 2003; Ivancevich & Matteson, 1996; Porter & Wallis, 2002).

Secondary research question one focused on the influence of leadership on regional emergency response. The research model posits that leadership should support the development of critical factors, including individual organizational empowerment, social ties, and synergy. The findings suggest that the HRMIRT has made far greater effort to engage members in developing goals, thereby insuring local goals and needs are met, than does the STRHMRT. The findings suggest that neither group has made concerted efforts to develop social ties, though it is evident that participants from both

teams have developed a distinct unit identity, which the relevant literature suggests is a critical factor to developing a collaborative environment. The research findings suggest that all those involved believed that synergy has been achieved, supporting the development of effective regional emergency response. The findings appear to suggest that leadership has played a role in the development of critical factors noted in the model. Leadership appears to have a marginally greater impact on the HRMIRT, specifically in the area of individual organization empowerment.

Secondary Research Question Two

How is management perceived to impact regional emergency response?

The relevant literature in Chapter II suggests that management is associated with those efforts aimed at achieving a goal. This is typically associated with activities involving the acquisition and usage of resources, the development of a formal organizational structure, the meeting of legal mandates, as well as with control systems used to monitor activities for the purposes of process improvement (Fayol, 1949; Gulick, 1969; Ivancevich & Matteson, 1996). These concepts were operationalized into specific questions for use in the interview (see table 3.2). Questions 9 and 17 of the interview instrument were associated with legal enabling. Questions 9, 17 and 19 explored how the team addressed organization and management of the team. Questions 8, 9, 10, 11, 15, 16 and 18 focused on staffing issues, including selection and training. The focus of these questions was to determine how management appeared to have influenced the critical factors associated with collaboration, including individual organization empowerment,

the building of social ties, and the development of synergy. Selected responses to these questions are illustrated in table 4.4, which is discussed throughout the following section.

Table 4.4: Selected Responses Related to Management

<u>Selected Issues</u>	<u>Responses by Regional Emergency Response Team</u> (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Informal approach to organization	4/8	0/5	4/13
Laws have not influenced team	4/8	5/5	9/13
No formal team organization	7/8	0/5	7/13
Team documents provide framework for activities	2/7	5/5	7/12
OSHA regulations have great influence on training and response	0/7	4/5	4/12
Most functions handled by individual departments	6/8	3/5	9/13
Sponsoring agency representative has assumed lead role	0/8	3/5	4/13
Sponsoring agency provides equipment or vehicles, facilitating interoperability	6/7	4/5	10/12
Individual agencies use own equipment, training with gear of others, facilitating interoperability	4/8	2/5	6/13
Individual agencies select personnel using own criteria	4/7	4/5	8/12
Individual agencies solicit volunteers	4/7	4/5	8/12
Sponsoring agency reimburses individual agencies	0/7	2/5	2/12
Sponsoring agency does not reimburse individual agencies	5/7	0/5	5/12
Individual agencies retain all compensation and workers compensation responsibilities	5/8	0/5	5/13

Table 4.4: Selected Responses Related to Management (continued)

<u>Selected Issues</u>	<u>Responses by Regional Emergency Response Team</u> (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Sponsoring agency provides workers compensation coverage for all team members	0/7	2/5	2/12
Sponsoring agency provides strong financial support	0/7	4/5	4/12
Formal leadership identified by documents	1/8	4/5	4/13

Legal Enabling

The concept of legal enabling focused on two issues. First, identifying the legal mandates that supported the development and sustenance of the team. Second, determining how associated laws influenced the organization and operations of the team, whether positively or negatively. The mission of the HRMIRT does not appear to be founded upon any legal mandates. The team was developed based upon a perceived need for such a response unit within the port environment, but there appears to have been no legislative mandate for its creation. The HRMIRT is mentioned in the *Hampton Roads Maritime Firefighting Contingency Plan*, but the language in the document is not associated with the structure of the team. Rather, it discusses the team only briefly as an operational asset for emergencies in the port. Section 44.146-19 of the Code of Virginia specifies the legal requirements for inter-jurisdictional agreements, including those for emergency response, which includes such issues as the approval of the governing body of a jurisdiction. The HRMIRT does not have such an inter-jurisdictional agreement in force, though reportedly it has been under development for some time.

As reflected in table 4.4, the participants from the HRMIRT noted that there were few, if any, applicable rules for maritime firefighting included in the Occupational Safety and Health Administration (OSHA) portions of the Code of Federal Regulations, leaving them largely free to structure and modify their function as the member organizations deemed appropriate. They also noted the National Fire Protection Association (NFPA) standard 1403, which deals with shipboard firefighting conducted by land-based firefighters, did provide an outline for training programs and operations, but it was sufficiently broad-based to not be a hindrance. Nicholson (2003) suggest that compliance with such voluntary standards provides several benefits, including providing a framework for comparing agencies, evidence that organizations have attempted to meet the standards and practices of their industry, as well as by illustrating organizational performance capacity when applying for grants. It should be noted, however, that the NFPA standards are often not specific and permit individual customization at the local level, as they usually are prefaced with a statement that the standards are to be set by the authority having jurisdiction, which is usually the individual organization.

The majority of the HRMIRT participants stated there was no formal team structure (see table 4.4). This is not to say that there are no references to authorities of various agencies. The HRMIRT is, by definition, a state asset. However, the *Hampton Roads Maritime Firefighting Contingency Plan* gives authority for deployment of the HRMIRT to the USCG. This is apparently a voluntary relinquishment of authority by the signatory agencies. Illustrative of this, while the contingency plan states, "...firefighting is not a statutory responsibility of the Coast Guard...", it also states the USCG Captain of the Port "...is deemed the final on-scene authority in marine disasters (United States

Coast Guard, 2002, 7). Essentially, the document states that the USCG has regulatory authority over ship traffic, but not over firefighting operations, but the localities and state agencies have elected to grant the authority to the Captain of the Port, based upon his professional qualifications and his position.

In contrast to the HRMIRT, the STRHMRT relationship is clearly defined by legal agreement. As previously noted, the concept behind its creation was SARA Title III, enacted by Congress in 1986, requiring the development of some form of hazardous materials response capacity at the state or local level. In response to this, the legislature of Virginia created a working group to study the problem in the state, leading to a proposal for the development of regional state teams comprised of local agencies contracted for such purposes (Ray Haring, personal communication, November 10, 2008; Richard Parker, personal communication, December 15, 2008). The responsibility for overseeing this program was assigned to the VDEM.

The regional teams were developed and are overseen as state assets by the VDEM, pursuant to the direction of the legislature. The contracts were developed by the VDEM, which then approached the local jurisdictions already possessing a HAZMAT response capacity. The contracts specifically detailed the responsibilities of each party to the contract, including the VDEM and the four cities participating in the STRHMRT. The contract specifies how the team is activated, who holds administrative authority over the team, and who is in command of the team if it is deployed. The contract specifies training and staffing requirements, and clearly delineates organizational responsibilities for workers compensation issues, all of which are discussed further in the section on organization and management and the section on staffing.

Contrasted with the HRMIRT, OSHA provides mandated training programs for employees engaged in HAZMAT operations, which are used by the STRHMRT as the basis for training members and organizing for response, which is reflected in table 4.4. In addition, relevant NFPA standards provide greater detail on how to fulfill the OSHA requirements, but leave some room for local adaptation based on local resources.

Participants from both teams did mention specific human resources laws that influenced the structure and operations of their teams. Illustrative of this, leaders of both teams mentioned the Fair Labor Standards Act, noting that they had to insure their administrative and operational functions complied with applicable laws and local policies associated with overtime compensation. Leaders of both teams identified worker's compensation laws dealing with employee injuries or fatalities, reporting that such issues were covered by their agreements, but, as is reflected in table 4.4, each regional team approaches the issue differently.

In the case of the STRHMRT, the contract state that all those injured during a covered function would be supported by the VDEM workers compensation policies. For the HRMIRT, the letter from the sponsoring agency states that the localities will be responsible for all workers' compensation issues. For example, the *Hampton Roads Maritime Incident Response Team Letter of Appointment* states each member engaged as a member of the HRMIRT, "shall have all of the pension, relief, disability, workers' compensation, and any and all other benefits provided to them while performing the work of their respective entities." One participant's response mirrored this document, noting:

In your local jurisdictions, what we have is a form once you're placed on the team. It is filled out by the local representative and then the Fire Chief signs it. It is also part of the (memorandum of understanding) that, when

you're operating as part of the team, your organization will cover you for workers (compensation).

When asked how this has worked in the past, both Haring and Burket replied that, to date, there have been no significant injuries or fatalities so they were unsure how such claims would play out in reality (William Burket, personal communication, November 6, 2008; Ray Haring, personal communication, November 10, 2008). This might be an important issue, at a later date, if there is a serious injury or fatality. In the aftermath of such an event, it is probable that much closer scrutiny will be applied to the administration and operations of each team, including how such workers compensation issues would be handled. At this time, any predictions would be speculative, as this was not an issue studied in depth in this research.

Participants of both teams did mention the value of being members of a regional team in terms of increasing their ability to be eligible for federal grants. However, the HRMIRT has never been awarded a grant. Although some of its operations were provided with grant monies, the grants were award to the VPA as part of a more global preparedness package, with small amounts of funds being distributed to the HRMIRT through the VPA budgeting process. The STRHMRT has also not been awarded any federal grants, though the contractual agreement does give the lead team, Portsmouth, \$30,000 each year for the maintenance of disposable supplies.

Several of the cities have received grants used for the HAZMAT teams, which may have been awarded in part because of their involvement in a regional endeavor, but the monies went to the individual cities and not directly to the VDEM or the STRHMRT. In one set of grant awards, the federal funds went to the Chesapeake, Norfolk and Virginia Beach HAZMAT Teams, with Portsmouth receiving no grants in that federal

grant cycle. The monies, awarded on the basis of the Nunn-Lugar Act, were reportedly used for the purchasing of HAZMAT equipment in those three cities.

Intriguingly, though the participants from the STRHMRT repeatedly pointed to the importance of their contract for the underlying structure of all they did, the contract provided to the researcher included a contract signed by a Battalion Chief from one of the member departments. Reportedly, although the contract had been in force for several years, the Battalion Chief who signed it had no legal authority to sign on behalf of the City. Although it had been known for some time, it was decided to hold off on rectifying the matter until the next contract renewal took place, which was a span of nearly four years. This might suggest that, although great value is placed on the legal document, the value may be more symbolic in nature, signifying the relationship between the parties than actually serving as a formal structure for interplay.

Organization and Management

Organization and management deals with how the teams structure themselves, as well as how financial issues are addressed. Specifically, these questions focused on how the team was formally structured, how decisions were made, and how power was shared. Additionally, these questions explored how each regional emergency response team addressed issues of interoperability, specifically those related to communications. These questions sought to determine how the organization and management of each team influenced the development of the three critical characteristics identified in the model of regional emergency response teams.

The HRMIRT was created through a professional association of interested parties. At its inception, a small group of interested parties who had attended a USCG-sponsored

marine firefighting symposium banded together to develop a specialized response capacity. Built upon existing professional networks, there was no formal organization or leadership, though most agree that Burket and Harry Worley of Norfolk Fire-Rescue assumed the informal leadership and carried a lion's share of the work. Over time, this informality has sustained itself, as is reflected in the responses that suggest the HRMIRT has no formal structure (see table 4.4). As one participant phrased it:

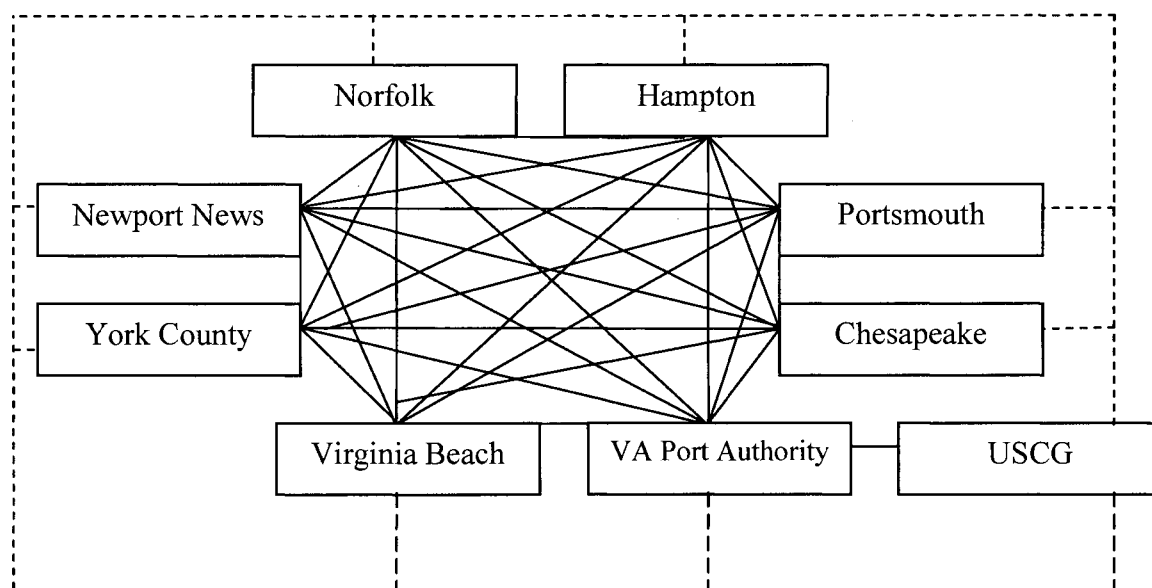
Not sure on the structure. We're not structured like the fire department, where there is a chief, a captain, (and) a lieutenant. As far as being a member, I feel when I show up I am an equal with everybody. It's not like I report to (an officer).

The HRMIRT is comprised of the independent marine units from several local fire departments. The marine units of the local fire departments are staffed and equipped to meet local needs, usually fulfilling this function as an ancillary duty, as opposed to a primary function. When acting in their HRMIRT capacity, they share in open discussions, seek group consensus, and move forward collectively. While Burket is the designated Director of the HRMIRT, he sees his role more as the primary point of contact between the VPA and local agencies. The designated core group of leaders is comprised of the team leaders of the individual departmental marine units, assigned by their sponsoring agencies. Their ranks range from firefighter, a non-supervisory, frontline position, to Battalion Chief, a mid-ranking officer. Interestingly, the majority of the HRMIRT core group reported having a lifelong affiliation with the marine environment, with many reporting their families had been involved in commercial fishing or tugboat companies. In this instance, their avocations appear to have led them towards an occupational specialty.

There is no formal hierarchy in the HRMIRT, based on the participant responses. All appear to be fully free to discuss issues with any other member of the core group, at any time. This relationship, which is circular in nature, denoting no formal hierarchy, is illustrated in figure 4.1. The HRMIRT Director is perceived to be more of a facilitator than a leader or a manager. When asked about Burket's role as the Director of the HRMIRT, one participant responded:

Billy (Burket) has always been very accessible. That is one of the best things. He is always so accessible that if we have questions he deals with them and takes care of them or tells us where to go.

Figure 4.1: HRMIRT Organization



The role of the USCG is somewhat anomalous to the formal structure of the HRMIRT as discussed in the documents of the team. As the USCG is a federal agency, it was not considered for membership in a state asset, which is what the VPA considers the HRMIRT (William Burket, personal communication, November 6, 2008). Formally, the

HRMIRT is comprised of the sponsoring agency, the VPA, and the marine components of the seven participating local fire departments. The role of the USCG, as identified by the majority of the respondents from the HRMIRT, is to provide expertise and training related to marine emergency incidents. As such, it may be formally viewed as an associated agency, but that perspective may be somewhat limited.

In practice, the USCG plays an active role in some HRMIRT operations. For example, when boaters call for assistance, they typically do so using marine band radios, which are monitored by the USCG (William Burket, personal communication, November 6, 2008; Kevin Saunders, personal communication, December 1, 2008). The USCG then contacts the HRMIRT Director, who insures that the appropriate local fire department marine components are dispatched to the scene. In many instances, the emergency response is comprised solely of local emergency responders, though, depending on the circumstances and location, the USCG may also respond units to the scene. In such circumstances, the USCG plays a vital role as a primary emergency contact for boaters.

Additionally, the *Hampton Roads Marine Firefighting Contingency Plan* notes that the local communities recognize the authority of the USCG Captain of the Port to assume control over all local emergency response units in the event of a large-scale emergency (USCG, 2002). One HRMIRT participant stated:

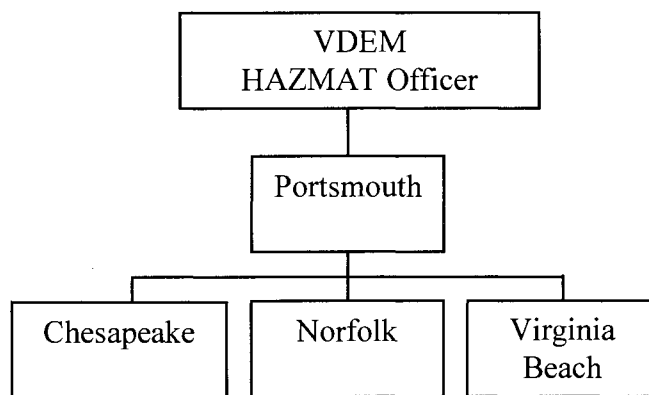
When we have a major incident, most times the Coast Guard Captain of the Port is going to be involved in it. He has the overall say so in the port community as far as marine response. He is kind of the law of the land. He can override a jurisdiction if need be. Fortunately, we've worked together long enough (that) I feel our command staffs in our local departments have enough confidence in our members who are on the team that if we suggest something to them they (will) go along with our...expertise.

There is nothing in the HRMIRT documents that refers to this process, which is also at odds with the *National Response Framework*, which notes that except for specific types of events, such as terrorist or the release of nuclear materials or radiation, the response to disasters is a local and state responsibility (Department of Homeland Security, 2006). According to the *National Response Framework*, the federal government typically only assists the local government when local and state resources have been exhausted. However, the *Hampton Roads Marine Firefighting Contingency Plan* states the authority to take command of local and state resources is recognized by the local and state agencies, suggesting they are voluntarily relinquishing command authority to the USCG, thereby establishing a relationship characterized by coordination.

The structure of the HRMIRT is illustrated in figure 4.1. The structure shows a close working relationship between the VPA and the USCG, and between the VPA and each of the member organizations. These relationships are illustrated with unbroken lines. Figure 4.1 also illustrates the relatively open nature of the relationships between the member organizations of the HRMIRT, with lines being drawn between all agencies. The more informal relationships of the USCG and all member organizations are noted by the broken lines. The USCG reportedly maintains a relationship with each of the member organizations, but works through the VPA on most HRMIRT matters. Presumably, if the *Hampton Roads Marine Firefighting Contingency Plan* was activated, the relationship would become a traditional hierarchy with the USCG filling the uppermost position of the organizational pyramid, making it mirror the formal structure of the STRHMRT, which is illustrated in figure 4.2.

The STRHMRT was created and organized by the contract, which is illustrated in the responses in table 4.4. The VDEM contract that underlies the STRHMRT specifically states that the team is a state asset, under the oversight of the VDEM HAZMAT Officer. The contract stipulates the regional HAZMAT Team is the Portsmouth Fire Department, whose designated city team leader is also the team leader for the regional emergency response team. In the language of the contract, the Portsmouth Fire Department is the regional HAZMAT Team and the other three cities are identified as supporting cities. The team leaders of the individual city components are assigned by their sponsoring organizations. The formal structure of the team, which is clearly hierarchical according to the contract, is illustrated in figure 4.2.

Figure 4.2: STRHMRT Organization



Despite the formality of the team, there is little evidence of a formal structure. The VDEM HAZMAT Officer appears to view his role more as a facilitator between the members of the core group. Although holding formal power under the contract, the team leader from Portsmouth appears to not use that formal power in any meaningful manner. Reportedly, decisions are often made after brief discussion, after attempting to get group

consensus. This was typically done using e-mail in a virtual environment, as opposed to personal meetings. Interestingly, the team leader from Portsmouth said that in nearly two years with the team, he could not recall many decisions that were required. The only significant issue that had arisen was the division of a one-time grant from VDEM for equipment, which was dispersed equitably amongst the member departments after discussions between Haring and the core group. It should be noted that this informality is not wholly reflective of the contract, which suggests a more formal structure. It is possible that, as personnel from differing agencies associated with the STRHMRT change, the formality of the relationships could change.

There seems to be an acceptance that Haring does have formal oversight of some functions, while working through the leader of the Portsmouth Fire Department HAZMAT Team. This perception is illustrated in this response to a communications question posed to a STRHMRT participant.

Ray Haring with VDEM is our regional HAZMAT Officer. When the team was formed, Portsmouth was made the lead time. Ray funnels a lot of information through Portsmouth to us. Sometimes he'll contact me directly.

In a follow-up question related to how training was scheduled, the response of one STRHMRT participant suggested that, while Haring does seek input, he retains the authority to schedule quarterly training on his own.

We do quarterly training four times a year. Ray (Haring) has already sent out a calendar with dates for next year. Asking if they're OK with the localities. If they're good, he coordinates and facilitates all that.

These perceptions seem further buttressed by the comment of another STRHMRT participant, when questioned about the role Haring played in the overall leadership of the

team. It seems to suggest Haring has assumed a more direct role than the leader of the Portsmouth Fire Department HAZMAT team than is put forth in the contract.

In the beginning, (VDEM) established Portsmouth as the (lead city). And Ray (Haring) takes a leadership role in training and coordinatingand keeping the organization together.

Neither regional team has many financial decisions to make as a group. The HRMIRT components are funded by their individual cities, using a combination of operational funds and grants. Each locality makes independent financial decisions based on its own needs, with no inter-organizational discussions needed. The VPA does provide funding, typically in the way of equipment. The VPA does not reimburse localities for the resources they allocate temporarily to HRMIRT functions, but training is provided free of charge. The VPA has also purchased vehicles and equipment, which have been housed in the fire stations of each locality. The vehicles and equipment remain the property of the VPA. Within this framework, there are few group decisions to be made. Reportedly, Burket discusses equipment needs and specifications with the core group, but he makes the final decision himself, making purchases with VPA funds. As noted in table 4.4, these views appear to reflect the majority of the respondents from each regional team.

The STRHMRT receives \$30,000 each year for logistics maintenance. This money all goes to the Portsmouth Fire Department, which by contract is required to maintain all equipment. The annual monies go to the replacement of disposable equipment and supplies used over the previous year, as well as to the replacement of goods with an expiration date. This is accomplished through the interaction of the VDEM HAZMAT Officer and the Portsmouth Fire Department HAZMAT team leader, with the other members of the core group having no role to play. Recently, the VDEM did

provide a \$150,000 one-time grant to the STRHMRT, which was to be used for equipment purchases. The former Fire Chief of the Portsmouth Fire Department stated, as the designated lead city, the money was going to remain in Portsmouth. However, after repeated discussions among the core group members, the funds were more equitably distributed among the member localities.

It should be noted that, while there is no evidence of formal joint planning occurring, there is a cooperative effort in purchasing. When possible, based upon local funding and purchasing rules, the STRHMRT components attempt to purchase the same equipment, or at least equipment that is compatible, which facilitates interoperability on emergency incidents. Additionally, there were reported incidents of teams electing to purchase one item, while another team purchased other items. While no single component team would have all the equipment necessary to handle an incident, they were assured that a neighboring jurisdiction had the equipment available. In relation to this, the teams have tried to identify means for working together that leverage their individual capacities, which is illustrated in one HRMIRT participant's response:

Special shipboard firefighting equipment we have throughout the jurisdictions is purchased through the (Virginia) Port Authority so it is a carbon copy in (all jurisdictions). Then with (locally purchased) equipment, when we do a drill...on fireboat operations...what we'll do is bring the different boats together. That way we can let crews look at the differing capabilities (of each boat). If they have to go out (on another fireboat), they will be able to function as a crew member.

The team leader of the Portsmouth Fire Department HAZMAT Team did note a potential issue with the purchase of equipment that could, at a later date, require more active participation from all players. When the STRHMRT was created, the VDEM provided funds for the purchase of a vehicle. In return, the Portsmouth Fire Department

agreed to house and maintain the vehicle, which is now nearly twenty years old. At some point, it will have to be replaced and, if the VDEM cannot provide the funding, replacing it will be challenging for any individual department, especially in the present economy.

Both the HRMIRT and the STRHMRT have identified interoperability of equipment as an issue. While radio communications were an issue in the past, they no longer are. All the involved cities now use similar radios systems that permit them to speak with one another. When on scene, the STRHMRT has a redundant radio system for use by personnel. Breathing apparatus between the localities has never been standardized, but both teams work around this by bringing sufficient breathing apparatus, spare air cylinders, and adaptors for filling those cylinders, to all incidents. This permits them to let the employees from each locality to use their own breathing apparatus on the scene.

Both the HRMIRT and the STRHMRT recognize the need to address interoperability, which they approach using differing means. In terms of purchase acquisition, one participant from the HRMIRT stated:

As far as what we purchase, it is one of those on-going things. As a command staff we are constantly researching what needs we have, whether it be communications equipment, personal flotation devices, (personal protective clothing)...then we'll come together as a group. We meet...once a quarter and sit down and discuss...what we need in the next budgeting process.

In a similar vein, a participant from the STRHMRT stated:

A lot of our monitors are pretty standard. Over the past six (or) seven years, when we've bought equipment its been grant equipment and we've all been working from the same page. We try to be compatible.

In terms of emergency response, another member of the HRMIRT reported:

I believe our (radio) system will integrate with the other jurisdictions. We also communicate using the Coast Guard VHF radios. The last training we went on, we...pretty much did what we could do. (Other jurisdictions) do things differently...we might be assigned to waterborne safety, while their boat would go in and do most of the firefighting, or something that it is more equipped for.

Staffing

Management literature stresses the importance of staffing, noting that excellence in organizations is largely attributable to the people that comprise them. Staffing questions examined how personnel were selected and trained as team members. These questions also explored how the regional emergency response teams integrated training into the training programs of the local jurisdictions, if, in fact, they did so.

The participants for both teams suggested that one of the primary benefits of participation in a regional response team is the ability to acquire additional trained personnel rapidly, without having to develop and support the resources independently. These responses are reflective of the concept of synergy, which is included in the model of regional emergency response teams.

Neither team has any specific requirements for team membership, leaving the criteria for team member selection to the individual localities, which is supportive of the concept of developing individual organization empowerment (see table 4.4). As the organizational components of each team are comprised of local fire departments, all of the team members have basic training associated with front-line firefighters, which typically includes certification as a firefighter, as an Emergency Medical Technician or Paramedic, and in Hazardous Materials Operations. The guidelines within each individual department can be vague. A participant from the HRMIRT stated:

They can't be (on the HRMIRT) when they're on their initial probation. None of our specialty teams will take someone who is on probation. Naturally, because we don't want them learning two things at one time...There is no specific (experience) time requirement. We look at each individual to see what they can bring to the team. Whether they have a marine background. Whether they have prior Navy, Coast Guard, military experience...but as far as a set of standards, no...

All of the respondents stated that, as a rule, their organizations sought to fill available team slots through the solicitation of volunteers, under the presumption that volunteers would have the necessary motivation to acquire new skills and meet the challenges of participating in a specialty function, such as these teams represent (see table 4.4). One participant reported the process of his fire department was:

When an opening becomes available because of a promotion or something along those lines we'll send out a request to the department (for) anyone who is interested to make contact with myself or the Battalion Chief of the Marine Division.

The solicitation of volunteers is often successful, apparently because of the premium local departments place on the efficacy of participation in such specialty teams in developing employees. Illustrative of this, one participant noted:

The additional training that you get makes you better prepared for promotion. Not that we give any weight to it, but being part of the HAZMAT team, in my opinion, makes you a better firefighter.

Another participant noted that the act of volunteering may also serve the needs of the individuals seeking to become members of a regional emergency response team, stating:

Right here are some of the cream of the crop of the...fire department... That goes for all specialty teams. Dive teams. (Technical rescue) teams. HAZMAT teams. (They) will get the cream of the crop. Why? Because these are the people who want to go that little bit extra to be a better Firefighter.

Several of the respondents did note, however, that, on occasion, positions are filled as deemed appropriate by the individual department, which might call for someone to be assigned to a team whether they desired it or not.

The teams do not always rely upon volunteers. When responding to a question concerning how his department selected personnel for the STRHMRT, one respondent reported:

Fortunately, within the past few years, there (has) been more of an interest in becoming part of the team than there was in the first...10 to 12 years...As people wanted to get off or got promoted, (others) were more or less forced onto (a team). For a long time, because of the HAZMAT training and skill levels our people had, most of our people who were promoted came off the HAZMAT Team. To replace them we pulled people right out of the field and stuck them there. Like myself, (but) I won't say I was a victim.

Each new member of the HRMIRT is expected to attend the annual shipboard firefighting symposium within their first year, though it is not an ironclad rule. The symposium was originally developed by the HRMIRT based on perceived need, but it has evolved over the years to meet the standards of the National Fire Protection Association. The training is recognized by the Virginia Department of Fire Programs, which provides limited support to the symposium to defray costs.

In addition to the shipboard firefighting symposium, the HRMIRT conducts quarterly drills. The same drill is conducted three days in a row, permitting the attendance of on-duty personnel from each locality who are assigned to rotating work shifts. The topics are selected by the core group, reportedly through the development of a consensus. The training is not mandatory, although the core group is considering requiring all members to attend at least two drills per year. This training helps to bring all the team members together in a training environment, permitting them to interact. These activities

will aid in the development of social ties, which is considered a critical factor in the development of a collaborative endeavor.

The STRHMRT training requirements are identified in the contract. All members are expected to become certified as HAZMAT Technician within one year, if the training is available. Thirty percent of each component team is supposed to be certified as HAZMAT Specialist, but there is no time frame associated with that. Typically, it takes several years after HAZMAT Technician certification to achieve the specialist certification, as it requires several classes and several years of experience to acquire. In addition to this training, the STRHMRT also conducts quarterly training similar to the HRMIRT. Unlike the HRMIRT, the topics are not developed by consensus. Instead, each of the four component teams takes a quarter and is responsible for developing and presenting the quarterly drill. While the individual city team leaders tend to work with the VDEM HAZMAT Officer in this, they do not engage the team leaders from the other cities.

The training for both the HRMIRT and the STRHMRT is exclusive. They do not engage other members of their host organizations in their training. Rarely do they train with other regional emergency response teams, except during large-scale disaster exercises conducted intermittently over the years. Both teams do integrate their on-going training into their individual departmental training requirements. Each member fire department requires its employees to conduct in-house training each month. Many of the participants noted they devoted much of this on-duty training time to their particular specialty. However, other than that, there is no integration of training between the regional emergency response team and their host city.

There appears to be no tracking mechanism for team activities. Each locality maintains the training records for its own team. Each locality maintains the records of its purchases. The resources purchased with VDEM funds for the STRHMRT become the property of Portsmouth, which then tracks it using their own internal mechanisms. The vehicles and equipment purchased by the VPA remain their property, and they maintain their own training records. Response reports are typically completed using the reporting mechanisms of the individual localities involved. Consequently, there appears to be no reporting mechanism on team activities for either of the regional emergency response teams, despite the relevant literature on management in Chapter II suggesting such mechanisms are vital to effective management.

Conclusions on Secondary Research Question Two

The relevant literature suggests that management plays an important role in the development of a regional emergency response team. The literature suggests management involves the acquisition and usage of resources, the development of a formal organizational structure, the meeting of legal mandates, as well as with control systems used to monitor activities for the purposes of process improvement (Fayol, 1949; Gulick, 1969; Ivancevich & Matteson, 1996). Based on the findings of this research, both teams are heavily influenced by management concerns, although management concerns appear to have a stronger influence on the STRHMRT, which, as discussed later, is probably linked to their roots in Title III of the Superfund Amendments and Reauthorization ACT (SARA).

Based on the findings of this research, it appears neither team has significant group activity related to acquiring and distributing resources. They appear to approach

the matter in a fragmented form, at best coordinating their purchases, or cooperating to insure that duplication is kept to a minimum. There does not appear to be any effort towards joint funding or shared purchasing in either of the regional endeavors studied. Such approaches to managerial issues do not appear to be supportive of developing or sustaining social ties, or of the development of overall systemic synergy, both of which are considered essential to collaboration (Agranoff & McGuire, 2003; Iaeger, 2004). In this one aspect of team management, the focus appears to be more on maintaining individual autonomy, as opposed to building and sustaining relationships with other organizations, even if that makes the overall regional effort only a paper relationship, as opposed to a real one (Agranoff & McGuire, 2003; Clarke, 1999; Basalo, 2003; Drabek, 1990).

The STRHMRT has a formal organizational structure for the core group, but not one that encompasses the membership of the entire team. The HRMIRT does not have any formal organizational structure, with the core group acting as equals. Like the STRHMRT, the HMIRT has no identifiable inclusion of team members in the structure. Despite this lack of formal structure, it should be noted that the participants all stated they believed their individual regional emergency response teams worked well. It appears that, based on a strong mission, comparable training, and a common occupational background, the individual team components are able to work together during emergencies without the benefit of a consistent, formal administrative or operational structure. Such adaptive managerial behaviors are discussed in the relevant literature as crucial factors in developing collaboration, with those engaged remaining focused on the outcomes as

opposed to the formal processes (Agranoff & McGuire, 2003; Cigler, 1994; Duncan, 1995; Guffey, 2003; Heiftiz, 2006).

Both teams recognize the importance of foundational documents to provide a framework for administrative and operational activities. The literature suggests such agreements help to clarify roles and support individual organization empowerment (Agranoff, 1986; Goldsmith, et al., 2003; Kamensky, et al., 2004; Kanter, 1996). The STRHMRT has a contract that clarifies most issues, and a set of standard operating procedures to frame emergency response. The HRMIRT recognizes the need for such documents and is working on them, but after nearly twenty years of existence they still operate without them, generally, according to their reports, with little negative impact. To some extent, this may be because the STRHMRT has its roots in federal legislative mandates, while the HRMIRT is founded upon a perceived need that is, reportedly, largely unregulated.

Management literature and systems theory both suggest the importance of recording information for tracking purposes, permitting organizational leaders to determine if goals are being achieved and if processes are efficient (Fayol, 1949; Gulick, 1969; Ivancevich & Matteson, 1996). Contrary to these fundamental precepts of management, neither of the collaborative emergency response teams maintains any coherent system of records, though it is probable that it would be possible to build a report for an incident or activity by collating all of the reports for localities involved.

This seems to be an interesting, previously unexplored factor in regional emergency response. The literature on management in Chapter II suggests that reporting systems are essential to effective management, as they provide means for oversight,

program evaluation, accountability, and developing information for future plans. That level of management is apparently at odds with the structures and administration associated with these regional emergency response team, suggesting that such managerial functions have been set aside as unnecessary for the success of the team. That might suggest that if a regional emergency response team is too structured, or adheres to closely to the idealized forms of managerial record keeping, they may, in fact, hinder the effectiveness of the team.

Secondary research question two sought to explore how management influenced the development of factors considered crucial to the effective regional emergency response (Lasker & Weiss, 2003). The findings of the research suggest that management has a stronger influence on the STRHMRT than on the HRMIRT. The STRHMRT is founded on legal mandates and a contractual relationship, while the HRMIRT is founded on an informal relationship with no formal operational guidelines. Within the collaboration typology of Kamensky, et al. (2002), the STRHMRT is a partnership, while the HRMIRT is a network. The former is based on a formal relationship, while the latter is characterized by interpersonal ties.

Both regional emergency response teams have attempted to address human resources factors, including staffing selection, training and compensation. This appeared to have been an issue of some importance, as all participants mentioned it and both regional emergency response teams have something in writing that clarifies the matter. Essentially, staffing selection and compensation have been left to the individual localities, with limited reimbursements available from VDEM to the STRHMRT, if the team has been activated for a response. Both the VDEM and the VPA provide training for

team members at no charge to localities. This is consistent with the relevant literature on recognizing the specific needs and expectations of individual agencies, which is supportive of the development of individual organizational empowerment, as noted in the model of regional emergency response (Agranoff & McGuire, 2003; Basalo, 2003; Ghani, 2006; Gratton, 2005; Heifitz, 2006; Lasker & Weiss, 2003).

Overall, it appears management has had an influence on the critical factors in the model. For example, the individualized purchasing and the local control over staffing, supports individual organization empowerment, permitting them to acquire and maintain whatever they need to meet local needs. The joint training programs are supportive of the development of social ties, as well as the development of a synergistic outcome, which are both considered critical factors in the development of a collaborative venture. The influence of management appears to have had a greater influence on the STRHMRT, based on its foundation in a legislative mandate, as well as the contractual nature on the relationship.

Secondary Research Question Three

How is individual organizational empowerment perceived to impact regional emergency response?

The literature suggests successful regional emergency response endeavors must recognize the needs and expectations of each organization involved (Duncan, 1995; Ghani, 2006; Gratton, 2005; Heifitz, 2006). It is not enough for an organization to recognize a greater purpose for them to become involved. They must be able to clearly see some benefit for their organization. If they perceive the needs and expectations of

their organization are being marginalized, they will not fully engage in collaboration (Clarke, 1999). They may engage initially, but begin to withdraw from active participation over time. Alternatively, their participation may be pro forma, with no participation beyond minimal participation in meetings and training sessions. The concept of organizational empowerment was operationalized into two variables, then further into relevant questions (see table 3.2). The first variable was local sovereignty, wherein the independence of each organization is recognized, which was associated with questions 10, 14, 22, and 42. The second variable was individual goals, where efforts are taken to address the individual needs and expectations of each organization involved, was covered by questions 12, 25 and 42. Selected responses to these questions are illustrated in table 4.5, which is discussed in the following pages.

Table 4.5: Selected Responses Related to Individual Organization Empowerment

<u>Selected Issues</u>	Responses by Regional Emergency Response Team (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Individual agencies select participants with own criteria	7/8	5/5	12/13
Individual agencies had no concerns with joining team	6/8	3/5	9/13
If external financial support disappeared, team would end	2/7	2/5	4/12
Team would continue even if financial support disappeared	5/7	3/5	8/12
Cannot envision reason to stop participation	0/8	2/5	2/13
Team training is not aligned with training program of individual organizations	3/7	3/5	6/12
Team equipment may be used for local needs on daily basis	4/8	0/5	4/13

Table 4.5: Selected Responses Related to Individual Organization Empowerment (continued)

Responses by Regional Emergency Response Team (# of responses / # possible)			
<u>Selected Issues</u>	<u>HRMIRT</u>	<u>Selected Issues</u>	<u>HRMIRT</u>
Team training excludes non-team personnel	6/7	4/5	10/12
Training developed at local level	3/8	0/5	3/13
Training based on model standards	2/8	3/5	4/13

Local Sovereignty

Local sovereignty focuses on the needs of individual organizations or jurisdictions involved to believe that they maintain control over their own destinies. While there is a recognition that any relationship with other organizations is likely to call for some negotiation concerning the powers and needs of one group with those of others, it is still important for each organization or jurisdiction to insure they are able to maintain some level of control over the outcome, serving to insure they maintain their ultimate independence.

The relationship between members of the teams appears amicable. As one participant noted:

I would say for the most part we're pretty equal. There haven't really been any turf battles or power struggles or that kind of stuff.

This is indicative of relatively close personal or professional ties, without any single individual or organization attempting to run rough shod over other jurisdictions.

There was a great deal of unanimity between both teams in response to these variables, as is reflected in table 4.5. When asked, none of the respondents indicated they knew or had heard of any concerns voiced by the leadership of their organizations with

joining the regional emergency response venture, or with maintaining participation over the years. The collective responses all appeared to indicate that each organization involved recognized the value of working together, permitting them to share costs, acquire specialized equipment, and access specially trained personnel within a short time frame. One participant noted:

Our fire administration (is) very supportive of it. No concerns. No desires to back out of our (STRHMRT) contract, or anything like that.

Similarly, another stated:

We were already part of the regional hazardous materials team and I think they saw the need for...the marine response, and...they had no issues at all with it.

When asked if there were any circumstances that could arise and make an organization question continued participation, the majority of the respondents raised the issue of funding. They seemed to suggest that if the cost of continued participation became too high, their organization might question continued participation in the team. However, these same respondents suggested that they considered this to be highly unlikely as their organizations recognized the need for each of the teams studied, and appreciated that the composite nature of the teams provided the most cost effective means for providing such services. The general feeling seemed to be that the teams would adapt, but they would continue to exist (see table 4.5). A participant from the STRHMRT responded:

I don't think it would stop...If that money went away, I don't think the (STRHMRT) would go away, but it would definitely impact our ability to get equipment...it would definitely impact our ability to maintain that equipment we currently have, and then replace it when it broke down.

There were two respondents from the STRHMRT who raised another issue. They suggested that if any one organization of the regional HAZMAT team began to assume total control over the administration and operations of the team, as permitted within the contract, there might be organizational concerns that questioned their continued participation in the team. However, as that had not occurred, they were unsure how their organizations would react.

Individual Goals

The concept of individual goals deals with how the team makes efforts to address the needs of individual member organizations. The relevant literature suggests that any members of a collaborative effort must feel their needs are being met in a meaningful way, or that there is a greater likelihood that their needs will be met in the future. Absent such a belief, member organizations may grow to believe they are only being used to meet the needs of others, which can lead to either withdrawal from the group effort, or to only pro forma participation.

Once again, there was unanimity in the responses from the representatives of each team. The consensus was that individual organizations had their own goals, which could sometimes be in conflict with the needs of the regional team. Illustrative of this, respondents noted that there could be times when the members of the regional team were needed to meet operational demands in their own departments, which would take precedence. In such circumstances, the respondents were of a consensus that the member departments would delay or deny the request for regional team activation until such time that they had addressed the needs of their own locality. While this would seem to indicate that each team recognized the importance of recognizing the individual goals of each

locality, the findings suggest this is more the case with the HRMIRT than with the STRHMRT. As one participant responded:

If we have a large incident in our own department...that takes precedence over the regional response and that is spelled out in the (memorandum of understanding).

To some extent, the responses from the STRHMRT are at odds with the contractual agreement. The contract stipulates that upon receiving a regional team activation, member organizations are to begin responding their personnel within thirty minutes. The contract does not stipulate that the activation request may be deferred or denied based on local needs existing at the time of the regional team activation. The contract requires each member organization to respond with a specified number of trained personnel within thirty minutes, with the lead city bringing the team's response vehicles and specialized equipment. However, in practice, all participants noted that, if there were unusual circumstances in their own communities, such as a significant emergency incident or a HAZMAT incident requiring their response, they were able to refuse the activation.

There were some responses that indicated member organizations believed that participation with the regional team helped them to meet their individual goals. As reflected in table 4.5, the majority of the HRMIRT respondents noted that being on the team permitted them to use team equipment for emergency incidents in their own locality, even if the HRMIRT was not activated. Also, the ability of the HRMIRT to develop training standards locally as a unit facilitated each locality's ability to insure training standards supported the reality of the potential disaster threat in their own community.

Conclusions on Secondary Research Question Three

Indicative of the manner in which individual organizational empowerment is addressed by each team is the manner in which they assign authority on emergency incidents. In all cases, the regional emergency response team is, in essence, a mutual aid agency coming into an independent jurisdiction. The HRMIRT has no legal authority to take over an incident. VDEM does have the authority to make a HAZMAT incident a state responsibility, but prefers to work with local emergency management personnel to address issues at the lowest governmental level. Engaging people at the lowest level possible is a characteristic of effective collaboration noted in the literature (Agranoff, 1986; Agranoff & McGuire, 2003).

The STRHMRT contract states that the leader of the team, who is from the Portsmouth Fire Department, has authority over the team on all responses. However, the standard operating procedures of the STRHMRT have modified that. When the STRHMRT is activated and deployed to a city that is not a member of the team, the Portsmouth team leader is in command of the HAZMAT function, working under the overall executive authority of the local jurisdiction who will still retain the ultimate responsibility for the successful mitigation of the problem. When the STRHMRT responds within any of the four member cities of the team, the team leader from that local jurisdiction is in command of the HAZMAT function, reporting, once again, to the local emergency management personnel. This seems to be fully supportive of the maintenance of local sovereignty, which, as noted previously, is one facet of developing individual organization empowerment.

Based on the findings, it appears that both regional emergency response teams, using differing approaches, have taken concerted efforts to insure that the needs of each member locality have been recognized and addressed in a manner satisfactory to that locality, which the literature suggests is important in the development of individual organization empowerment (Basalo, 2003; Ghani, 2006; Heiftiz, 2006). This appears to have been done in recognition that the relationships are ultimately voluntary, and may be dissolved at any time, which would not be beneficial to any of the communities involved (Cigler, 1994; Clarke, 1999).

Secondary Research Question Four

How are social ties perceived to impact regional emergency response?

The literature on collaboration suggests that effective collaboration requires strong interpersonal ties between individuals and organizations (Agranoff & Mcguire, 2003; Ghani, 2006; Levine, 1998). Consequently, it is important that leadership and management support the development of social ties. This can be done through various means, both formal and informal. It may be done through professional networking events such as luncheons, or training evolutions engaging personnel from various agencies (Kamensky, et al., 2002). There is no single approach to developing social ties so organizations will need to make positive efforts to facilitate interaction, as well as to generate on-going communications between all players. These concepts were operationalized into questions used as the basis for the interview instrument (see table 3.2). Questions on the instrument associated with this variable were 14, 28, 29, 30, 31, and 32. A tabulation of selected responses to these questions is in table 4.6.

Table 4.6: Selected Responses Related to Social Ties

<u>Selected Issues</u>	<u>Responses by Regional Emergency Response Team</u> (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Quarterly training program supports networking	8/8	5/5	13/13
No specific administrative meeting schedule	6/8	2/5	8/13
Team provides no special incentives	5/7	3/5	8/12
Hierarchical communications	8/8	4/5	12/13
Primarily e-mail communications	7/8	4/5	11/13
Team training is exclusive to team members	2/7	4/5	6/12

Interpersonal Relationships

According to the literature on collaboration, it is essential that players from different organization are familiar with one another on a professional basis, though a limited relationship on a personal basis is more desirable (Kamensky, et al., 2002; Kanter, 1996). These relationships support trust and open communications, which are deemed vital to the success of the overall effort. In terms of this research, these questions focused on efforts made to develop and sustain interpersonal relationships between team members. Related questions in this section concerned knowledge management. Specifically, how information was shared with members within the team.

All of the participants in the HRMIRT and the STRHMRT reported that communications were accomplished primarily by e-mail or phone, supported by intermittent meetings that were conducted as deemed necessary (see table 4.6). These communications were generally viewed as informal, serving to facilitate the exchange of

specific information. Suggestive of this was the response of one member of the

STRHMRT:

Ray (Haring) shoots an e-mail out...says this is what I'm thinking about. What do you guys think about it. And again, Ray (Haring) is a facilitator. He does not try to take the lead or play one team against another in any way, shape or form. He just tries to facilitate, keep all jurisdictions happy, and moving in the right direction.

As a general rule, the HRMIRT Director and the VDEM HAZMAT Officer communicated with their core group, with the core group expected to communicate information down to the individual team members within each jurisdiction, which is reflected in table 4.6. The same pathway, used in reverse, was used to communicate up each organization. In relation to the STRHMRT:

Its usually through e-mail. Its usually through the four team leaders, and then we disseminate that down to the (local members).

This study was primarily focused on the relationships between the leaders of the team, as opposed to communications directly with or between individual team members who do not fill a leadership role. This study suggests that, as a rule, the team leadership of each venture did maintain some level of informal, horizontal communications through e-mail, sporadic meetings, periodic drills, and other approaches, but the study did not explicitly examine relationships between individual members of the team below the level of the leaders. All participants seemed to agree that there were no formal team communications between individual team members horizontally, though it likely exists on an informal level, which is facilitated by the networking opportunities made available through training, which is reflected in table 4.6.

Several of the participants noted they did maintain open communications with some members of their core group, but not all. They reported they tended to have greater

communications flows with neighboring jurisdictions, who they worked with more frequently on routine mutual aid calls, than with more distant localities involved in the regional emergency response team. This seemed to be more prevalent in the HRMIRT than the STRHMRT, but as distance was usually voiced as the reason for the lack of routine communications, it is logical based on the comparative geographic differences between member organizations of the much larger HRMIRT and the smaller, more geographically centralized STRHMRT. For example, several participants noted that they often work more closely with those other members from adjoining jurisdictions, as this more limited assistance is often sufficient to meet operational demands, without the activation of the full HRMIRT.

When asked about question concerning communications with the STRHMRT, one participant replied:

Actually its been pretty good. I don't know how horrible its been. Generally, when Ray (Haring) is looking at an issue he'll come to us and talk to us, whether it is in a meeting or an e-mail or a phone call. Its worked pretty good. We have a good relationship there.

When asked a similar question, an HRMIRT participant responded:

With Billy (Burket), its been pretty much like that as well. He reaches out to us and asks us what we would like...its worked pretty good.

According to Burket, the HRMIRT is exploring the concept of a HRMIRT website to facilitate communications. Using a VPA server, a website could be developed with various materials on it, including a members only section with a discussion board to ease the flow of information between members. At this time, such a project is only under consideration, but it is indicative on another effort to increase interpersonal interaction.

As noted previously under the section on staffing, both the HRMIRT and the STRHMRT use common training programs and quarterly training to develop new personnel and maintain the qualifications of current members. Many of the participants noted that these events permitted everyone to work together, leading one to the conclusion that such training events also support the development of interpersonal relationships.

Conclusions on Secondary Research Question Four

The literature review suggested that effective regional emergency response teams must have, as a critical component, strong interpersonal relationships between team members (Agranoff & McGuire, 2003; Ghani, 2006; Guffey, 2003; Kamensky, et al., 2002; Porter & Wallis, 2002). Both the HRMIRT and the STRHMRT have apparently recognized this, though neither has taken strong steps to strengthen such relationships.

While the core groups of each regional emergency response team appear to support sufficient communications, one would be hard pressed to suggest they maintained an open, free-flowing discussion consistent with the collaboration literature. Additionally, the members of each team are largely excluded from team communications, except for formalized, hierarchical communications pathways, which the relevant literature suggests would be a hindrance to developing interpersonal ties (Aamodt, 2007; Kanter, 1996). Ultimately, the findings of the research suggest neither of the regional emergency response teams has made concerted efforts to build social ties, but, as noted elsewhere in this chapter, both teams have appeared to have developed a strong, unit identity. This suggests another dynamic in play, which must be further explored in other research if it is to be understood.

Secondary Research Question Five

How is synergy perceived to impact regional emergency response?

The relevant literature on collaboration suggests that effective regional emergency response teams must generate a synergistic effect, with all parties recognizing a clear benefit of increased capacity linked to their endeavors (Cigler, 1994; Guffey, 2003; Lasker & Weiss, 2003; Schmoke, 1996). In terms of this research, this would include an increase in response capacity through the expansion of existing resource, through the acquisition of additional resources, or the enhancement of existing resources, such as might be obtained by acquiring personnel with advanced training or specialized equipment. The concepts were broken down into variables, and then into questions that served as the basis for the interview instrument (see table 3.2). The questions on the interview instrument dealing with these facets of the research were 12, 13, 20, 21, 34, 35 and 39. Table 4.7, which is referenced in the following sections, provides information on selected responses.

Table 4.7: Selected Responses Related to Synergy

<u>Selected Issues</u>	<u>Responses by Regional Emergency Response Team</u> (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Training program is developed and scheduled by group	4/7	0/5	4/12
Training is selected by individuals	2/7	5/5	7/12
Team decisions are made by consensus of all team leaders	5/7	4/5	9/12
Individual agencies must respond to a request, unless it would negatively impact their operations	5/7	4/5	9/12
Localities expected to provide logistical resources	5/7	2/5	7/12

Table 4.7: Selected Responses Related to Synergy (continued)

<u>Selected Issues</u>	Responses by Regional Emergency Response Team (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Localities expected to provide personnel time to attend training	5/7	3/5	8/12
Perceived team benefit is increased resources	6/8	0/5	6/13
Perceived team benefit is increased training for personnel	5/8	2/5	7/13
Perceived team benefit is increased availability to trained personnel	6/8	4/5	10/13
Perceived benefit is cost-sharing	0/7	3/5	3/12
Team has made the region better prepared	8/8	5/5	13/13

Increased Service Capacity

The literature on collaboration stresses that one of the primary goals for becoming involved in a collaborative effort is acquiring an increased service capacity (Agranoff & McGuire, 2003; Dodge, 1996; Guffey, 2003; O'Toole, 1997; Schmoke, 1996). This may identify a desire for expanded capacity or enhanced capacity. Expanded capacity has to do with the number of resources being brought to bear on a problem. Enhanced capacity has to do with the level of service, which in specialty function team, such as those studied, suggests the availability of specialized equipment and specially trained personnel. In this study, questions associated with synergy also explored how each regional emergency response team addressed joint planning efforts, if it did, as well as how they addressed issues with command and control of large-scale incidents.

The majority of participants responded that the teams created a much greater response capacity than any single jurisdiction could develop or support on their own (see

table 4.7). This included the increase in the number of specially trained personnel within their own organization, as each regional emergency response team provides training to its members that all participants considered to be of high quality. This permits them to handle far more emergencies on their own, without the need for a regional team activation, than was previously possible. The majority of the participants also remarked upon the ability to increase the number of specially trained personnel available for a specialized response on a daily basis, as on-duty resources from other localities could be readily accessed through the activation of a regional emergency response team. Essentially, many of the organizations believed they had sufficiently robust internal systems to handle more routine emergencies, but needed additional resources to meet unusual circumstances or large-scale events.

The participants were consistent in noting the specialized logistical resources that could be accessed through activation of a team. For the HRMIRT, this included the watercraft of the member organizations, as well as the specialized equipment provided by the VPA. As part of their efforts to support interoperability and increased preparedness, the VPA, through the HRMIRT, has purchased vehicles and specialized equipment for placement around the region. The equipment includes such specialized items as dewatering pumps for ships and forward looking radar that can be mounted on small boats. The VPA retains ownership of both the vehicles and equipment, and provides all necessary maintenance. In turn for housing the equipment, local governments are permitted to use the VPA equipment on any local incidents, regardless of whether or not the HRMIRT is activated. They also must agree to respond the equipment to an HRMIRT activation, if they are available for response, as noted previously.

The participants from the STRHMRT also noted the availability of logistical resources. For example, as part of the contractual agreement, the VDEM has provided funds for a response vehicle and equipment to be housed by the lead city. Conceptually, this should provide all the necessary equipment to effectively mitigate the majority of the incidents to which the team is dispatched. In reality, more equipment is available. Since the STRHMRT was started, each of the localities has developed a relatively robust HAZMAT response capacity of their own. They have acquired specialized equipment for the types and volume of incidents they face in their own jurisdiction. As a rule, the participants reported they tended to bring all of their HAZMAT equipment to any STRHMRT activation. This leads to not only a redundancy in HAZMAT equipment, but often the availability of some specialized device purchased for a specific local need that may be put to use elsewhere.

Conclusions of Secondary Research Question Five

The research model states that one of the critical factors for developing a regional emergency response team is the perception of a synergistic effect related to participation (Lasker & Weiss, 2003). In terms of this study, it means that local agencies must believe they have the ability to enhance or expand resources to a level beyond which they could support individually. The findings suggest that this has been achieved through both of the teams. All of the participants believed their regional emergency response team made the region better prepared for a disaster. All of the participants believed the regional approach permitted them to increase their response capacity by sharing costs associated with personnel, equipment and training.

While there were some identified costs borne by each locality, participants reporting them considered them minimal. Generally, the costs were limited to the time needed to permit personnel to attend training programs and activations. Several participants did note that at times this was an issue, but it was primarily one of scheduling and convenience for each locality. In the end, the costs were included in normal operating costs, so no other expenditures were necessary. A few noted the possibility of an opportunity cost, where activities associated with each of the Regional Emergency Response Teams reduced the ability of each organization to engage in other functions. In addition, for the STRHMRT, if the team is activated, the locality is reimbursed for the majority of the associated expenses through processes identified in their contracts.

Secondary Research Question Six

How is the environment perceived to impact regional emergency response?

The model of regional emergency response used in this study is based upon systems theory (see figure 1.2). Systems theory is discussed in Chapter II. It suggests any organizational activity is comprised of inputs, outputs, and outcomes. According to systems theory, a feedback loop from the outputs and outcomes of any process may lead to changes in the environment that impact the system (Kast & Rosensweig, 1992; Sylvia, et al., 1996). In addition to the feedback, open systems are viewed as subject to the influence of environmental factors, which in public administration can include such factors as the economy, the political environment, and the relationships between localities.

These concepts examined how the external environment affected regional emergency response. The concepts were operationalized into questions used as the framework for the interviews (see table 3.2). The interview instrument questions dealing with inter-sectoral boundaries were 9, 26 and 33. Interorganizational boundaries were covered by questions 14, 23, 24, 26, 36, 37 and 38. Hazard specific issues were explored through questions 1, 40 and 41, while existing relationships were examined through questions 25, 26 and 27. Selected responses to these questions are provided in table 4.8 and referenced throughout the following pages.

Table 4.8: Selected Responses Related to Environment

<u>Selected Issues</u>	<u>Responses by Regional Emergency Response Team</u> (# of responses / # possible)		
	<u>HRMIRT</u>	<u>STRHMRT</u>	<u>Aggregate</u>
Team participation has improved relationships	7/8	4/5	11/13
Team participation has had beneficial influence on other programs	6/7	2/5	8/12
Team was created for perceived need	8/8	3/5	11/13
Team would continue if state agencies withdrew support	6/7	4/5	10/12
Role of state agencies is financial support	2/7	5/5	7/12
Role of federal agencies is expertise, training	4/8	0/5	4/13
Team has no federal role	1/8	4/5	5/13
Desire increased funding from state and federal sources	2/7	2/5	4/12
Team would continue event if external funding flow ceased	5/7	3/5	8/12
Team was developed because of potential hazards in region	7/8	5/5	12/13
Team has made the region better prepared	8/8	5/5	13/13
Team has plans to expand	1/7	0/5	1/12

Inter-sectoral Boundaries

The relevant literature on collaboration suggests that in the modern public administration environment, success is often tied to the ability of organization to see relationships across sectors (Agranoff & McGuire, 2003; Dodge, 1996; O'Toole, 1997; Ruchelman 2000; Schmoke, 1996). In terms of this research, this means the ability of public sector agencies to work with private sector organizations. Associated questions sought to determine if the regional emergency response team engaged with the public sector and, if they did, how they were integrated into the endeavor.

The HRMIRT participant responses collectively suggested an active, but limited, engagement with private sector partners. There has been a great deal of activity with the private sector, particularly when a specialty need is felt. Illustrative of this, marine chemistry, a field specializing in hazardous materials used or transported by ship, is a highly specialized field. The HRMIRT has a close working relationship with several marine chemists who volunteer their expertise to HRMIRT members. Hiller Systems, a local company specialized in maritime fire suppression systems provides not only expertise to the HRMIRT, but also provides fire suppression agents on a limited basis. The Virginia Pilots Association and the Maryland Pilots Association provide launches, when available, to provide HRMIRT members access to shipping in the Chesapeake Bay and its tributaries and, to a limited extent, in the Atlantic Ocean. In all three cases, the relationship with the HRMIRT is voluntary and the private sector organizations are not considered members of the core group, though no one disputes their value. While their participation is voluntary at inception, there are limits. Hiller Systems, it is reported, will provide suppression agent for a limited time, but expect at some point to either get a

contract from the shipping company to continue their service, or to recoup their expenses under existing maritime salvage laws.

The STRHMRT participants generally said they had limited interaction with private sector resources. Typically, if they were responded to a HAZMAT emergency, they might turn over the incident to a private HAZMAT contractor for clean-up, but the operations are transitioned from the STRHMRT to the private sector organization and the organizations do not work together. However, it was noted that several private corporations have worked closely with the STRHMRT in training activities. This may involve the provision of specialized training by company representatives well-versed in specific hazards, or, as in the case of Norfolk-Southern, the use of rail cars for realistic training evolutions. Like the HRMIRT, where the STRHMRT members value their relationships with their private sector partners, they are not considered part of the core group. In contrast to the HRMIRT, the STRHMRT does not involve private sector resources in response activities.

Based on these findings, this portion of the environment appears to support the immediate needs of both the HRMIRT and the STRHMRT. Both regional emergency response teams are able to acquire needed expertise to support their training. The HRMIRT makes greater use of private sector resources in their response. In both instances, the relationship with private sector agencies are supportive of the regional emergency response team, though it is probable that greater interaction may be possible, leading to service improvements. Identifying those improvements, however, is beyond the scope of this research.

Interorganizational Boundaries

Literature on collaboration in the government sector suggests that it is virtually impossible for government agencies to meet all the expectations of the public they serve without significant interaction with other governmental actors, whether horizontally with other cities and counties, or vertically with state and federal agencies (Agranoff & McGuire, 2003; Dodge, 1996; O'Toole, 1997; Ruchelman 2000; Schmoke, 1996). The questions relevant to this sought to examine if activities crossed jurisdictional lines and, if they did, how they were addressed in terms of decision-making and authority. The questions also explored how those activities influenced the overall regional emergency response team. Associated questions also explored the perceived role of the local, state and federal governments in supporting these regional emergency response teams, seeking to determine what is expected of differing levels of government in the development and maintenance of such endeavors.

Many of the earlier responses have made it clear that intergovernmental boundaries have created some barriers to the development of regional emergency response teams, but none that were sufficiently significant to create an unbreakable barrier. In point of fact, most participants reported the regional emergency response team has improved relationships between the localities not only in relation to emergency response endeavors, but in other programs as well (see table 4.8).

As noted earlier, the leaders of both teams have sought to create an open environment for the leadership of each team, seeking to facilitate discussions leading to consensus, wherever possible. In the HRMIRT, this appears to be the model for all processes. The STRHMRT, at least formally, has led to the concession of some local

authorities to a single-organization, ostensibly for greater ease of coordination. However, neither the VDEM HAZMAT Officer or the leader of the Portsmouth Fire Department HAZMAT Team has attempted to use their formal authorities to override the decisions of the group. Illustrative of this is the training scheduling, as described in the section on staffing. Each of the four HAZMAT teams takes turns selecting a topic and presenting it to the others. In essence, they are sharing power by rotating the function, as opposed to letting one person or agency make all decisions, though such would be permissible within a narrow perspective of the contract.

When asked about the relationships between localities impacting the regional emergency response team, most participants said their localities had a professed regional approach to all issues, or at least they know of no ill feelings between local governments. As indicated in table 4.8, most believed they were supported locally and would continue to work together if state and federal support ended. Most participants stated that they were fully supported by their local elected officials. Although it was a response from the pilot study, one comment from a leader of the Tidewater Regional Technical Rescue Team seems sufficiently pertinent to include here. When asked the same question in the pilot study, the Battalion Chief stated that they had great support from the elected leaders, but he was not truly sure that the elected leaders had any idea what they did.

The information collected suggests that both teams have made great efforts to work together, focusing on the overall mission of their team. This has led them to making decisions and concessions that permit them to work together across inter-jurisdictional lines in a relatively harmonious fashion.

Hazards Specific Issues

Much of the relevant literature on the development of collaborative endeavors noted that such efforts are initiated for a variety of reasons, including a perceived need, an identified gap in service capacity, a governmental mandate, or a previous failure in meeting service demands (Agranoff & McGuire, 2003; Comfort, 2002; Cigler, 1994; Kamensky, et al., 2002; Loflin & Saunders, 2002). The questions associated with this element of the research sought to determine how issues specific to the mission of each team contributed to the development and sustenance of the regional emergency response team. As indicated in table 4.8, the creation of both teams was supported by the perception of a need for such a response capacity in the area.

Despite being home to one of the largest ports in the world, Hampton Roads has not experienced a major maritime disaster (William Burket, personal communication, November 6, 2008). There have been shipboard fires. There have been pier fires. There are often calls for pleasure craft issues, whether they are on fire or just in distress because of engine problems. There have been hazardous materials spills, but none of the major oil spills that have affected other regions. The perceived need for the HRMIRT was therefore originally driven not by the existence of major emergency incidents related to the port in the past, but instead to the recognized potential for major issues. These issues became increasingly more salient after the terrorist attacks of September 11, 2001, when the federal and state governments became more focused on protecting the ports from terrorist threats. This led to the development of the port security grants, which the VPA has accessed, using part of those grant monies to support HRMIRT activities. Because of

the perceived potential of maritime emergencies in the port, natural or manmade, the HRMIRT is likely to be considered a necessity for the foreseeable future.

The STRHMRT was developed because of federal law, which was based on numerous, major HAZMAT incidents around the nation. HAZMATs have become increasingly ubiquitous to modern life, and minor HAZMAT emergencies occur daily. Additionally, there have been local HAZMAT events that have called for major commitments of personnel and equipment. This marriage of federal mandate, past history, and the potential for terrorist attack, all conjoin to keep HAZMATs a major area of concern for state and local government. Consequently, it is probable that the HAZMAT teams will continue to exist in the current form for some time.

The last part of this variable examined the perceptions of participants as to the efficacy of the teams. Essentially, they were asked if they believed the teams had made the regional better prepared for disaster, as well as what could be done to make the teams better prepared. Every participant responded that their team made the region far better prepared for disaster than before (see table 4.8). The majority noted the only area of greater support they would like to see would be greater funding streams, but recognized that this was unlikely in the present economic situation. They believed increased funding could be used to provide additional training and more specialized equipment, and not necessarily for additional staffing for either team. One participant did state he believed the role the HRMIRT Director would be better served with a full-time employee, as the demands of the job were becoming more onerous as the team developed.

Most of the participants also noted that, based upon the number and diversity of regional emergency response teams in Hampton Roads, they could not think of another

type of regional emergency response team needed. One participant did suggest a potential need for rescue swimmers modeled after the USCG assets, but noted that this would be more of an issue for some localities than others (Todd Cannon, personal communication, November 24, 2008).

Existing Relationships

Collaboration literature suggests the relationships between governments and individual play a major role in the development of regional emergency response (Agranoff & McGuire, 2003; Basalo, 2003; Clarke, 1999; Drabek, 1990; Guffey, 2003). Pre-existing relationships play a major role in inter-organizational trust, communications, and power sharing. These questions focused on these relationships as they stood at the beginning of the team, as well as how current relationships are perceived to influence each team at this time.

Richard Parker, the VDEM HAZMAT Officer associate with the STRHMRT when it was formed, was asked about relationships between the fire departments at that time. He stated that, while they were generally good, there was far more in the way of turf protection then than now (Richard Parker, personal communication, December 15, 2008). The first Fire Chiefs approached about becoming the lead department in the STRHMRT declined, apparently unsure of the level of the VDEM's commitment or the burden becoming lead team would have placed upon them. To be sure, all the Fire Chiefs approached wanted their local teams involved, but not as the lead team. The Fire Chiefs say the desirability to cost-sharing in these activities, and agreed upon the perceived need for such specialty response teams, but were concerned that the responsibilities of being the lead team could have distracted their organizations from other activities.

Parker noted that, in his opinion, interpersonal relationships between the local departments had greatly improved over the years (Richard Parker, personal communication, December 15, 2008). This perspective was widely shared among participants, who stated their beliefs that all of the regional emergency response teams in the region had improved relationships between departments, largely by tearing down walls between individuals employed by differing agencies (see table 4.8). The common basic training and the shared quarterly training, when conjoined with emergency response activities, have aided in building and strengthening relationships between the departments. One STRHMRT participant noted:

I really don't think there are any big egos involved. No territorialism. For the most part we all work together to reach the same goal. To move in the same direction.

Indicative of the improved relationships were the responses to questions about factors that could lead to withdrawal from the team. While many of the respondents believed that economic factors could create an environment where a Fire Chief had to decide to maintain participation in a regional emergency response team or cut local services, they did not cite any other factors. In point of fact, as noted in table 4.8, the majority of the respondents from both regional emergency response teams stated they believed the teams would continue even if all financial support ceased, based upon a shared vision of the team's value to the area.

The findings related to existing relationships suggests that the relationships between local departments have not been extremely poor since the inception of the teams, but have definitely appeared to have improved over the years. This has led to an environment that appears to support the team strongly, with team members more than

willing to explore any options available to maintain the team. This suggests that the regional emergency response teams are viewed as a success because, if they had been viewed as unsuccessful, the responses would have been more critical, noting that the teams would fold and no alternative approaches would be considered to sustain them.

Conclusions on Secondary Research Question Six

These questions dealt with the influence of the environment on the development and sustenance of regional emergency response teams. The literature review suggested regional emergency response team development would be influenced by environmental factors, such as perceived need, relationships between sectors and jurisdictions, the perspectives of elected and appointed officials towards regional efforts, or other factors, including the desire of municipal leaders to share costs (Agranoff & McGuire, 2003; Basalo, 2003; Cigler, 1994; Duncan, 1995; Guffey, 2003; Porter & Wallis, 2002; Schmoke, 1996). Systems theory suggests that open systems are susceptible to influence by many external factors (Kast & Rosensweig, 1992; Katz & Kahn, 1992). The environment can become a powerful influence on regional emergency response teams, as successful ventures may generate additional support for themselves, as well as support for other collaborative ventures (Agranoff & McGuire, 2003; Perroni, 1991).

The variables explored included inter-sectoral boundaries, interorganizational boundaries, hazard specific issues, and existing relationships. Some of these factors are completely external, such as the influence of the economy or state and federal rulemaking on the field. Others, such as existing relationships, are directly influenced by the success or failure of the regional emergency response team. Based on the findings of this study, the environment appears to play a positive influence on regional emergency response.

Neither the HRMIRT or the STRHMRT has private sector actors as part of their core group. However, both appear to have good working relationships with the private sector, but the relationship appears to be stronger on the HRMIRT. The HRMIRT works very closely with private industry in the port to acquire needed resources and expertise. This has evolved into some private-sector participation in emergency response. The STRHMRT does work well with private industry in relation to training issues, but does not engage the private sector in emergency response. Despite this, the relationships between the regional emergency response teams and the private sector remain good, which would suggest a positive relationship on the regional teams.

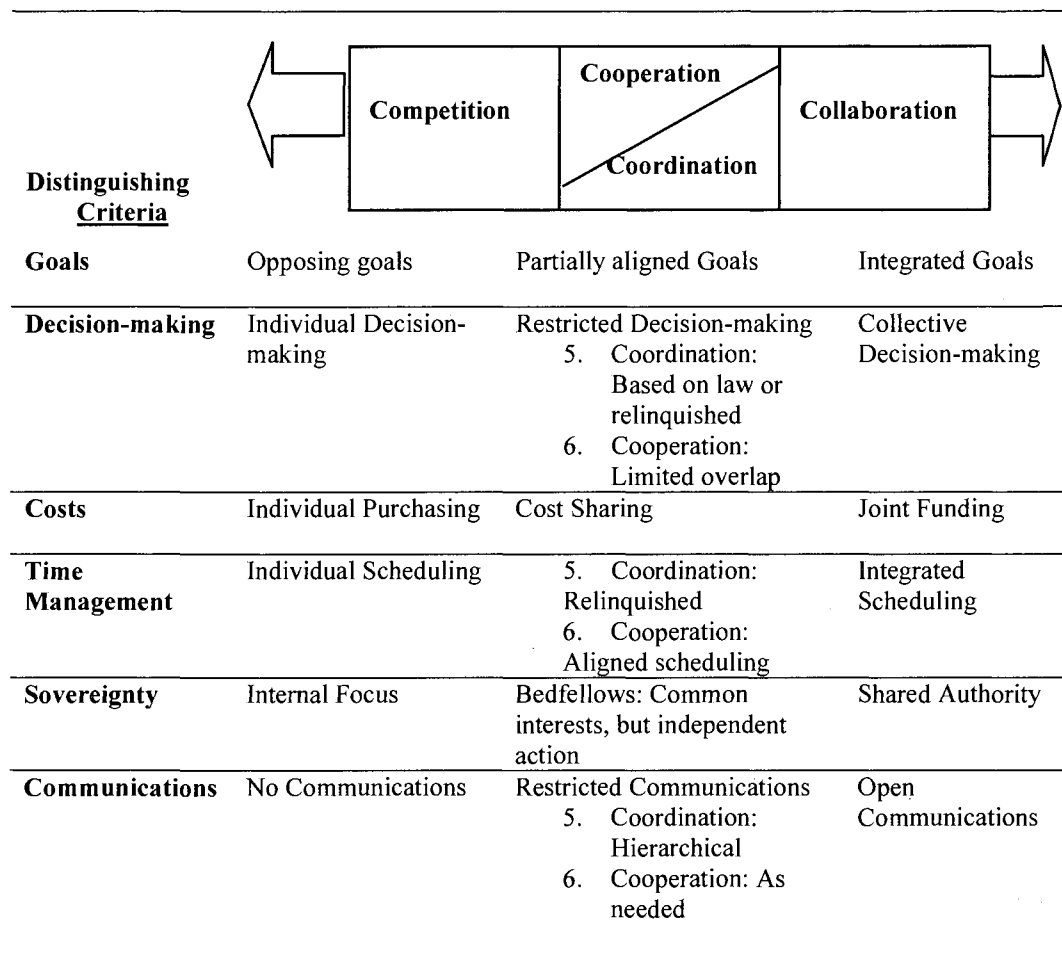
As previously noted, the level of large-scale emergency activity requiring a response from either the HRMIRT or the STRHMRT has been low. Despite this, the perceived salience of the issue remains high, as noted in table 4.8 in the responses related to the potential threat to the region. To a very great extent, the perceived potential for a disaster has increased since the September 11, 2001, according to several of the participants, though the issue was noted more often by participants from the STRHMRT than the HRMIRT. This may be attributed to many of the threats from terrorism being associated with potential explosives or toxic materials. The consequences of disasters are covered widely in the media, apparently raising the specter of such an event occurring in Hampton Roads, conjoined with the realization that such large-scale, complex events will require specialized response (Comfort, 2002; Loflin & Saunders, 2002). This has, reportedly, contributed to continued support of both regional emergency response teams studied in this research, and, as noted previously, strengthened the resolve of those

involved in both teams to maintain a close relationship, even if funding streams from the state government faded.

It is also noteworthy that all of the participants remarked upon the positive relationships between the organizations involved and the local and state level. Most of the participants noted that relationships had improved over the years, as illustrated in table 4.8. These relationships are reportedly encouraged by local governments, with several participants noting their localities strive to use regional approaches, whenever possible. Previous research has suggested that poor relationships between jurisdictions may have a detrimental effect on regional approaches to any issue (Probsdorfer, 2001). In this research, it appears the environment supports the development and sustenance of regional emergency response in Hampton Roads.

Collaboration-Competition Continuum

The research problem, purpose and questions were all related to the concept of inter-organizational efforts to address a problem in a unified manner. As was discussed in Chapter I and Chapter II, such efforts are typically referred to as collaboration, under a broad interpretation of the term, which was why the literature on collaboration was used as a framework for this study (Agranoff & McGuire, 2003; Kamensky, et al., 2002). However, as noted in Chapter III, while the literature and models associated with collaboration were well suited to this research, it was clear that endeavors identified as collaboration may indeed be reflective of other relationships, including coordination, cooperation or competition. It is also likely that no single endeavor is purely reflective of a single relationship archetype, and instead may exhibit characteristics of mixed types.

Figure 4.3: Collaboration-Competition Continuum

The differences between the types of relationships was identified and discussed in depth in Chapter II. That information is repeated again in table 4.3. One could define collaboration as involving a full integration of organizational activities, suggestive of a partnership of equals. Cooperation involves discrete entities working towards the same or similar goals, insuring they do not interfere with the efforts of others, but not integrating activities or engaging with other organizations except in a superficial manner (Kamensky, et al., 2002). Coordination suggests a hierarchical relationship between

organizational components (Drabek, 1990). While such authority is typically associated with some form of legal mandate, it appears in some inter-organizational relationships organizations may voluntarily relinquish authority to another agency to create a more formal inter-organizational structure. A competitive relationship suggests organizations are working against one another, with each seeking a mutually exclusive goal (Basalo, 2003). For purposes of consistency, the term collaboration has been used broadly in this research, however, as noted in Chapter III, it is necessary in analyzing the data to determine if the relationships noted were collaboration, or rather they reflected another form of inter-organizational relationship.

Based on the findings of this research, neither the HRMIRT or the STRHMRT are entirely collaborative. The participant responses suggest all those involved share fully integrated goals, understanding the complex interdependent nature of all involved when faced with a significant emergency event, which is a characteristic of collaboration (Agranoff & McGuire, 2003; Cigler, 1994; Schmoke, 1996). This was partially illustrated in the virtual unanimity in responses that both teams would continue even if all external funding were stopped. The participants clearly indicated they would continue to work together in some manner, which is indicative of a collaborative arrangement.

The findings suggest a difference in approaches towards decision-making. The HRMIRT seeks to involve all core group members in all decision-making, whenever possible. The STRHMRT team stated that they tend to seek consensus, but have agreed to relinquish those decision-making functions in certain cases. In many instances, based on the VDEM oversight included in the contract, decisions may be made by either the VDEM HAZMAT Officer or the team leader of the lead city. As reported earlier, the

STRHMRT rotates responsibilities for developing and presenting quarterly training, with the cities not assigned the drill that quarter having no input. This is more indicative of a coordination relationship. While aspects of the coordination based on the contract are legal agreements, the coordination of the training appears to be a voluntary relinquishment of decision-making input for those particular drills. It must be understood that none of the other parties is aggrieved over this arrangement, but it is clearly not collaborative in nature, according to the relevant literature.

Within the literature review, joint funding is present when all parties engaged place their share of the funding in a common fund, then make expenditures jointly as a group (Agranoff & McGuire, 2003; Basalo, 2003). In both the HRMIRT and the STRHMRT, budgeted funds are held within a single agency, or in the case of the STRHMRT, transferred between agencies. For example, this is done when the annual funding is given to the lead team, and when localities are reimbursed for responses. This type of arrangement contributes to an overall environment of cost sharing. As both teams stated they tried to insure their purchases of equipment complimented one another, their relationship related to costs is more indicative of either coordination or cooperation. As the decisions are not made in a hierarchical fashion, the relationship appears to be more cooperative in nature.

In terms of time management, participants from both teams reported that they shared calendars to insure the least impact on any single agency. This permitted them to select training dates that worked for all involved, though if some agency or individuals could not attend, they would be excused. Reportedly, this was somewhat more problematic than it sounded because they had to arrange the schedules for these events

with the schedules of other activities within their organizations. Based on the literature review, this suggests a cooperative environment.

Collaboration calls for shared authority (Agranoff & McGuire; Cigler, 1994; Guffey, 2003; Lasker & Weiss, 2003) . In the STRHMRT, authority is formally vested in the VDEM HAZMAT Officer and the team leader of the lead team. In the HRMIRT, there is no formal authority identified. Instead, they plan to work together with local governments as needed, using a flexible approach towards integrating resources. This suggests an approach towards sovereignty that is not fully shared, but instead is more limited. As the authority of the STRHMRT is formally vested in certain individuals based on the contractual agreement, it is more accurate to classify it as coordination. With the HRMIRT, with people working together for joint purposes, but not sharing overall responsibility, the relationship is most accurately described as cooperation.

Formal communications within each team are sporadic. Communications occur as needed, and are typically carried out using e-mails or phones in a hierarchical communications pathway. In a collaborative environment, communications are open in all directions at all times. The communications described by participants is more associated with a coordinated or cooperative environment, but since it is not associated with a formal control from above, it is probably more accurate to describe it as cooperation.

The relevant literature noted that the term collaboration is often used very broadly, encompassing many other types of relationships (Agranoff & McGuire; 2003; Kamensky, et al., 2002). The findings of this study suggest that both the HRMIRT and the STRHMRT are considered valuable, well functioning regional emergency response

teams despite any differences noted in the research. The findings suggest that neither is truly collaboration, based on the literature review, but instead is a mixture of various relationship characteristics (see table 4.9). As Kettl (2002) noted, it is common for relationships between two entities to be a mixture of various archetypes. The research suggests that, based on the collaboration-competition continuum, which was developed from the composite literature in Chapter II, the HRMIRT is a coordinated-collaborative venture, while the STRHMRT is a mixture best described as cooperative-coordinated. These conclusions are based upon a preponderance of factors, with no weights being assigned to any specific characteristic, as no weighting was incorporated into the collaboration-competition continuum model.

Table 4.9: Comparison of Collaboration-Competition Continuum Characteristics

<u>Characteristic</u>	<u>HRMIRT</u>	<u>STRHMRT</u>
Goals	Collaboration	Collaboration
Decision-making	Collaboration	Coordination
Cost Sharing	Cooperation	Cooperation
Time Management	Cooperation	Cooperation
Sovereignty	Cooperation	Coordination
Communications	Cooperation	Cooperation
Summary	Cooperative-Collaborative	Cooperative-Coordination

Primary Research Questions

The primary research questions were those focused strictly on the research purpose, which was to describe and analyze regional emergency response in Hampton Roads, Virginia. The primary research questions sought to determine why organizations sought to enter into such inter-organizational relationships, how they structured them, and to determine if there were pre-existing conditions that supported the development and sustenance of such endeavors.

The study was built upon a research model identified as the model of regional emergency response, which was developed from a review of the relevant literature (see figure 1.2). The secondary research questions were built upon that model, facilitating the collection and analysis of information necessary to answer the primary research questions. For example, primary research question one dealt with why local governments elected to engage in regional emergency response. Understanding the influence of vision, concerns for individual organization empowerment, a desire for synergy and the influence of the environment are essential to answering that question. Illustrative of this, if organizational leaders perceive that they can engage in an interorganizational relationship that will have a synergistic affect on their response capacity, permitting them to increase their ability to respond to disaster without large additional expenditures, they will be more likely to seek such an inter-organizational relationship relationship.

Primary research question two explored how organizational leaders structured and organized regional emergency response ventures. All of the secondary research questions provide some glimpse of the total answer to primary research question two. The secondary research questions dealt with leadership and management activities, which have to do with setting goals, building teams, acquiring and organizing resources, and other aspects of any organized activity. Understanding how to structure such an organization in a manner that will not only achieve its goal, but will do so in a manner that recognizes and meets the needs of individual organizations and localities, is vital to the development of any inter-organizational venture, according to the literature in Chapter II.

Primary research question three sought to determine if there were pre-existing conditions that contributed to the development and sustenance of a regional emergency response team. The literature in Chapter II suggests that strong leadership, effective management, including an effort to share costs, and an attendance to the needs of individual organizational concerns were associated with the development of regional emergency response teams. Consequently, secondary research questions one, two and three helped to answer primary research question three.

Table 4.10 illustrates the relationship between the primary and secondary research questions. As the responses to the secondary research questions have been provided in great depth previously in this chapter, the responses to the primary research questions are relatively brief, serving as a summation of the previous materials.

Table 4.10: Thematic Map of Relationship Between Primary and Secondary Research Questions

Primary Research Question	<u>Secondary Research Questions</u>					
	1	2	3	4	5	6
1	X	X			X	
2	X	X	X	X	X	X
3	X	X	X		X	X

Primary Research Question One

Why do local governments engage in regional emergency response?

Based on the findings of this study, local governments engage in regional emergency response primarily to better prepare their communities for an event that would overwhelm or exceed the emergency response capacity of their locality. This view was put forth by all participants in the study and it appears to be based upon two factors.

First, the very real possibility of a large-scale emergency exists throughout the region, regardless of whether or not a significant event has occurred in the past. For the STRHMRT, this is because of the widespread use of chemicals in modern society. For the HRMIRT, it is the heavy port traffic. For both, it is a mindset that frequently cites the possibility of terrorist attack. Second, it would not be managerially, politically, or financially prudent for any one community to attempt to develop in-house resources sufficient to meet all potential emergency events, especially given the overall probability that a large-scale even will not occur in any one locality. Working together permits the individual locality to share costs, thereby facilitating an increase in response capacity without the bearing all of the costs individually. Consequently, the desire to share resources, and therefore associated costs, is highly pertinent. In point of fact, the goal of cost-sharing is included as a purpose of the team in the contract of the STRHMRT.

Based on these two factors, another approach is necessary, which, at least in Hampton Roads, appears to be a regional emergency response team. The findings of this research suggest that other factors associated with collaboration noted in the relevant literature, including altruism, network development and increased funding, were not important decision-making factors influencing the development of the regional emergency response teams in Hampton Roads (Bryson, et al., 2006; Kamensky, et al., 2002; Seidman, 1998).

While perceived need and perceptions of cost-sharing tended to be the primary factors reported by participants, the responses from the STRHMRT provided an additional rationale. The legal mandate to provide HAZMAT response capacity at the state and local levels was considered a compelling rationale for the development of the

regional team. However, while the participants seemed to consider Title III of the Superfund Amendments and Reauthorization Act (SARA) mandates as a distinct rationale for the development of a regional emergency response team, such a narrow view belies the fact that the reasons for enacting SARA Title III essentially mirrored the factors noted above. Congress enacted the law because of the potential for HAZMAT incidents. They required state and local governments to develop a capacity, through whatever means, including regional teams, because so many jurisdictions lacked sufficient capacity on their own to effectively respond to such emergencies.

Primary Research Question Two

How do local governments structure collaborative emergency response relationships to address the concerns of both the individual organizations and those of the community of organizations banded together?

Based on the findings of this research, there is no single answer to this question. This supports the work of Agranoff & McGuire (2003) and Lasker & Weiss (2003), who wrote that collaborative ventures were numerous and varied. Illustrative of this, the STRHMRT is a team clearly defined by contractual agreements, founded to meet a federal mandate, with training and operational requirements framed by OSHA in the Code of Federal Regulations, as well as by voluntarily accepted standards developed by the NFPA. Organizationally, in formal terms, if not in practice, it is a relationship generally characterized by coordination from the top down, with the VDEM HAZMAT Officer holding broad oversight authority.

In contrast, the HRMIRT is founded upon a yet to be written mutual aid agreement, based upon a perceived need for such a capacity in the port of Hampton Roads. Reportedly, it is subject to no specific federal or state laws. There were references to general laws related to employee safety, but not specifically to shipboard firefighting or marine emergency response. Therefore the broad, voluntary standards of the NFPA are the only framework available to build upon. The relationship of the core group is based not on a formal document, but on a shared vision and, in many instances, a common background associated with the port community in Hampton Roads.

Contractually, the STRHMRT has a rigid hierarchy. The VDEM HAZMAT Officer oversees the regional team. The team leader from the lead city is, in effect, the chief officer of the regional team, with the leaders of the supporting cities agreeing to work under his direction, based upon the contract. Aside from that hierarchy, however, there is no formal structure based on such factors as geography or function. When the team is activated, the team members work together as best they can, merging for some functions, but working as individual components based on host city in others.

The HRMIRT has no formal structure, other than the formal designation of HRMIRT Director. The role of the director is, reportedly, more one of administrative oversight. There are no current organizational structures noted within the team, though they have discussed developing some form of functional divisions related to training specialties.

Both the HRMIRT and the STRHMRT have apparently attached great importance to issues related to compensation and workers' compensation. Both regional emergency response teams have some form of documentary affirmation that stipulates the individual

member cities will be responsible for the compensation and workers' compensation benefits for all members, though the STRHMRT does provide state coverage for workers' compensation for personnel injured during activations of the regional team. The STRHMRT does provide for limited reimbursement for selected covered costs incurred during a deployment, but not for training. The important factor is, regardless of the form used, both teams have addressed such financial and human resources issues in their foundational documents.

The findings of this research suggest there is no one way to structure a regional emergency response team, with an adaptive approach customized to the specific needs of the issue leading to a diverse team arrangements (Agranoff & McGuire, 2003; Heifitz, 2006). The research focused on two teams. The participants from the HRMIRT even stated they had modeled their team after the STRHMRT. Despite that, they are very different in many ways. They have differing perspectives on legal and procedural frameworks. They have differing leadership structures. They approach decision-making very differently. They approach equipment purchasing differently. However, the teams are perceived to be functional, high performing teams capable of meeting the emergency service demands of the region. These findings are based upon the responses of participants, which clearly could be biased, but as there appear to be no widespread calls for change or program modification, it appears their perceptions are supported. Clearly, the findings suggest that, beneath a veneer of commonality, regional emergency response teams may very well be far more diverse in structure, administration and operation than is readily noticeable.

Primary Research Question Three

Are there pre-existing conditions that support the development of collaborative emergency response and, if so, what are they?

The findings suggest there were four factors that supported the development of the regional emergency response teams in Hampton Roads. First and foremost, there was a readily identifiable need for such services. The size of the port of Hampton Roads and the increasingly common presence of hazardous materials in the modern world made it easy for municipal leaders to understand the need for such programs. Once they accepted the need, they were more than willing to consider means of filling the identified service gap. Without this pre-existing perception of need, it is doubtful either venture would have gotten off the ground.

Another factor that was seemingly necessary for the development of a regional emergency response team was the perception that costs could be shared. While such statements were not often present from participants with the HRMIRT, they were often present for the STRHMRT. In point of fact, the cost-sharing aspect is specifically included in the purpose for the STRHMRT, as identified in their contract. This suggests that, at least for the STRHMRT, the perception that costs could be shared was a necessary pre-condition for the development of the team and, without it, the regional emergency response endeavor may never have made it to the implementation phase.

Next, the participants all suggested the value of having support from their host organizations. All stated that they had great support from their own organizations. Most reported their local governments were highly supportive of regional approaches to public service, especially if service capacity could be increased while costs could be shared.

They also noted that their organizations were willing to support the regional endeavors because, as a rule, the localities in the region appear to have good relationships, supportive of collaborative efforts. The importance of organizational support can be summarized in the response of one participant, who said:

Make sure you get support from the top, because you'll never make it without support of the Fire Chief.

Perhaps most important, is the ability for those engaged in the process to maintain a strategic focus. The research findings suggested numerous differences in the structure and administration of each team. What both teams had, according to all participants, was a tight focus on the desired output and outcome of the model of regional emergency response (figure 1.2). Everyone seemed to desire a disaster resistant community, and appeared to share the belief the regional emergency response was the best means of achieving it. The research did not address the outcome portion of the model, nor evaluate if regional teams were the most effective means of achieving it. However, for purposes of this study, the findings suggest that the strength of a shared vision compels diverse people to work together, focusing on the desired outcome and not worrying about specific processes. Such an adaptive approach to complex problems is well supported by the relevant literature in Chapter II (Cigler, 1994; Duncan, 1995; Forsman, 2002; Guffey, 2003; Jaeger, 2004; Ruchelman, 2000; Schmoke, 1996).

The research does not disparage or disprove the importance of any other conditions associated with the development of collaborative ventures noted in Chapter II. However, the findings of this study suggest that, in terms of these two regional emergency response needs, a strongly perceived need, a supportive organizational

environment, and a tight focus on overall strategy were the pre-existing conditions needed to achieve success in developing the teams.

From most responses, the participants could only conceive of one environmental factor that might contribute to the end of their team activities. Reflective of their common responses, one participant said:

The only thing I can think of, and it would be pretty far-fetched because we get a lot of support here, would be if the well dried up and we were looking at what we would have to cut to get bare bones. I would think that might be like, we might fall into that block.

Even then, the participant responses were consistent that they did not believe this would actually end the teams, but would only lead them to alter their approaches. They all suggested they would continue their efforts in some manner or other, reflective of their recognition of the need, as well as their tight focus on the overall strategic goal.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Chapter V presents the overall conclusions of the research, in addition to providing recommendations both for future research and for those seeking to develop regional emergency response teams in their communities.

Summary of Research

As noted in Chapter I, the responsibility for the initial response to most emergencies lies with local government. Local governments develop an emergency response capacity to meet normal service demands, but do not generally have the ability to develop capacities for large-scale incidents, or multiple smaller emergencies occurring concurrently. To do so independently would not be considered cost-effective and could lead to a duplication of capacities, as was discussed in Chapters I and II. To meet the demands of such unusual circumstances, many local jurisdictions engage in regional emergency response endeavors. As noted in Chapter II, such resource sharing relationships are better known anecdotally than through empirical research (Agranoff & McGuire, 2003). This could contribute to an environment where those attempting to develop regional approaches are unsure of how best to develop and sustain them.

The purpose of the research was to describe and analyze regional emergency response in Hampton Roads, Virginia. The research focused on the development and

sustenance of regional emergency response teams, seeking to develop a better understanding of the phenomenon, which could lead to increased levels of preparedness for disaster in localities across the nation. The research was conducted in Hampton Roads, Virginia, because of its convenience to the researcher, and was narrowed to an examination of two regional emergency response teams due to concerns for controllability. The Hampton Roads Marine Incident Response Team (HRMIRT) is a regional team specializing in emergencies in the maritime environment, and the Southside Tidewater Regional Hazardous Materials Response Team (STRHMRT) serves as a response organization to chemical emergencies in the region. Both teams are sponsored by state agencies, but are comprised of components from local fire departments that have voluntarily entered into an inter-organizational relationship.

The research sought to answer the following primary research questions. Why do local governments engage in regional emergency response? How do local governments structure regional emergency response relationships to address the concerns of both the individual organizations and those of the community of organizations banded together? Were there pre-existing conditions that supported the development of regional emergency response and, if so, what were they?

To facilitate the research, the following secondary research questions were used. How was leadership perceived to impact regional emergency response? How was management perceived to impact regional emergency response? How was individual organizational empowerment perceived to impact regional emergency response? How were social ties perceived to impact regional emergency response? How was synergy perceived to impact regional emergency response? How was the environment

perceived to impact regional emergency response? Secondary research questions assist in structuring the research, as well as in categorizing the collected information. The responses to the secondary research questions directly supported developing the responses to the primary research questions.

A qualitative approach was taken, combining semi-structured interviews and a review of the foundational documents for each regional emergency response team, which is a means well suited for exploring specific phenomenon, especially when the phenomenon is new or has not been previously studied in depth (Adler & Frey, 1998; Creswell, 2003). The information collected was subjected to data reduction, using a thematic mapping scheme, which is described in Chapter III (Miles & Huberman, 1994). The thematic map used is illustrated in appendix B. The categorized data was then interpreted, utilizing an iterative, interpretivist approach (Cresswell, 1994; Miles & Huberman, 1994).

The research was conducted using collaboration theory as a framework, with a model of regional emergency response teams used to structure the research process (see figure 1.2). Many researchers, including Agranoff & McGuire (2003) and Lasker & Weiss (2003) have noted that the term collaboration is used broadly, but may be indicative of other relationships. To assess this perception, a means of categorizing collaboration and the other possible relationships, including cooperation, coordination and competition, was developed. The tool was named the collaboration-competition continuum (see figure 3.1).

Findings

The research suggests that the development and sustenance of regional emergency response teams is a complex phenomenon, illuminating the previously written position that collaborative ventures are very diverse in nature (Agranoff & McGuire, 2003). This research focused on two specific teams, but found notable differences between the two. Agranoff & McGuire (2003) reported that collaboration took many forms in many environments, so the findings of this research support that aspect of the collaboration literature.

The relevant literature on collaboration in Chapter II suggested that strong leadership played a major role in the development and sustenance of any collaborative venture. While much of the literature suggests that inter-organizational endeavors such as those explored in this study will typically be spurred on by the organizational leader, this was not true in the development of these teams. The HRMIRT was essentially created by front-line, non-supervisory employees, then taken up their respective organizational chains-of-command for formal acceptance. In this instance, the role of the formal leader was to let their underlings have the freedom to move forward, as opposed to providing the vision and taking the lead in any of the activities.

The STRHMRT was developed using a top-down approach, external to the organizations involved, based on federal mandates. In this instance, there was strong leadership from the top, but it was outside of the host organizations and nested within the VDEM by the state legislature. The VDEM HAZMAT Officers worked with mid- and low-ranking officers within the organization, though they did work closely with high-level officers at the inception. Despite these differing origins, both have developed into

regional emergency response teams that are valued by the organizations involved, providing a valued service to their communities, based upon the reports of the participants.

The findings suggest there were four pre-existing conditions present that contributed to the development and sustenance of each of the regional emergency response teams. The research suggested the first was the existence of a clear need. Both Cigler (1988) and Porter & Wallis (2002) had previously noted the critical nature of having a clearly identified need in the development of collaborative ventures, seeking what Duncan (1995) referred to as domain consensus. The need was not based on any specific event or failure of service delivery, but instead was based upon the potential needs inferred from the environment. The HRMIRT was developed because of the perceived need to have maritime emergency response capacity in one of the busiest ports in the world, which could potentially face crises caused by shipboard fires, sinking vessels, marine chemical spills, or any other myriad events occurring in the port or adjoining water ways (William Burket, personal communication, November 6, 2008). For the STRHMRT, it was the perceived need to prepare for chemical spills in a modern environment where the use of potentially toxic materials has become ubiquitous. Without the perception of a clear need, it is doubtful either of these ventures would have progressed beyond a conceptual state, according to the literature in Chapter II.

Concerns for cost-sharing appear to have been a necessary pre-requisite for the development to the STRHMRT. Although a few participants from the HRMIRT mentioned the sharing of costs, it was mentioned by a majority of respondents from the STRHMRT. Cost-sharing is noted as a specific purpose for the development of the team

in the STRHMRT contract, suggesting it was considered a highly significant issue for the development of that team. It is likely that, without the perceived need to achieve cost-sharing through such a regional response, the development of a regional team may never have progressed past the planning stage.

In this study, all participants were vociferous in proclaiming the strong support they had received from their organizations and from their local governments, which was a precondition previously noted by Cigler (1988). Most participants noted their localities had good working relationships with the others in the region, and had professed a desire to engage in regional approaches whenever feasible, which is an approach well covered by the literature (Ruchelman, 2000; Schmoke, 1996). In no participant responses were there references to major concerns for protecting ones own interests at the expense of others, which can be an hindrance in developing inter-organizational rapport (Basalo, 2003; Drabek, 1990). In point of fact, most respondents specifically noted that there seemed to have been no issues related to protecting the turf of individual organizations. This support, which manifested itself in differing ways, was necessary to permit organizational leaders to work closely with members of other organizations, seeking means of sharing resources to meet the perceived needs of potential emergencies. This permitted all involved to develop a means of increasing their response capacity by sharing resources, with the clear understanding that assistance was to be freely given, with the additional understanding that, when needed, assistance would be returned, which strongly supports the attainment of individual organization goals.

The findings also suggested that it was vital for all those engaged to maintain a strategic focus. As noted, there were many differences between the teams, including ones

of structure, of consensus building, and of leadership. However, both teams consider themselves to be vital assets in increasing the disaster preparedness of Hampton Roads. This suggests that each regional emergency response team, not just the ones studied in this research, will have to be adaptive, seeking the most functional means of achieving their strategic focus, as opposed to becoming concentrated on processes. This was previously noted by Agranoff (1986), Cigler (1988), Guffey (2003), and Porter & Wallis (2002).

This shared vision and desire to achieve the overall strategic goal has manifested itself in the belief among participants that no matter what happened, they would adapt to the circumstances and maintain their regional emergency response relationships in one form or another, which is reminiscent of Agranoff's (1986) intergovernmental management, suggesting that public administrators should worry less about changing the environment than about doing whatever is necessary to adapt and achieve their goals. To some extent, this shared vision made each regional emergency response team a distinct sub-groups within their overall organizations, capable of achieving high levels of excellence through adaptation and focus (Bennis & Biederman, 1997; Hamilton, 2004).

Overall, these perspectives are indicative on an internalization of the mission and process of each team by its members; which is usually associated with collaboration. As noted in Chapter II, however, the term collaboration and its associated literature are used very broadly and encompass differing forms of relationships (Agranoff & McGuire, 2003; Kamensky et al., 2002). The research determined that neither regional emergency response team studied was collaboration, but instead was a mixture of differing relationships, which is not uncommon when attempting to use pure archetypes for

categorization, based upon the collaboration-competition continuum illustrated in figure 2.1 (Agranoff & McGuire, 2003; Kettl, 2002). The HRMIRT was a combination of cooperation and collaboration, while the STRHMRT was a combination of coordination and cooperation.

Contributions of the Research

This study contributed to the body of knowledge in several ways. The literature review suggested that collaboration, or relationships referred to as collaboration, such as coordination and cooperation, are known more by anecdotal evidence than for empirical research (Agranoff & McGuire, 2003). This study contributed to the body of knowledge by adding to the empirical research of collaboration literature, expanding the subject field.

The literature review noted that resource sharing was among the least used, and therefore the least understood, of all forms of collaboration (Agranoff & McGuire, 2003). Regional emergency response teams are developed, largely, as a means of sharing resources (Forsman, 2002; Loflin & Saudners, 2002). Other endeavors, such as economic development, education and health care, usually focus on collaborative planning and coordination of efforts, according to the literature discussed in Chapter II. The relevant literature on collaboration in Chapter II suggested that inter-organizational collaboration in such areas as economic development, education and health care require integrated efforts towards planning and decision-making, and that such collaboration requires the active engagement of top leaders within each organization. The findings of this study suggest a different dynamic may be present in resource sharing relationships.

The study did not directly examine resource sharing as a distinct activity, but it was a common thread in many of the research questions. The research indicated that each organization shared the perspective that the potential for a large-scale event is present, and meeting the response demands of such an incident will require agencies to share resources, specifically trained staff and equipment. Unlike the forms of collaboration noted in the literature, which calls for the active engagement of top organizational leaders, the resource sharing relationship in this study was typically carried out by low- and mid-ranking officers, and in one instance by a non-supervisory employee.

Agranoff (1986) coined the concept of intergovernmental management for a practical approach towards problem solving in a multi-organizational environment. Instead of focusing on what the relationships and power-sharing models are or should be between differing jurisdiction, which he considered the focus of the intergovernmental relations perspective, Agranoff suggested organizational leaders need to focus instead on how to make programs work within the existing intergovernmental environment. Both of the regional emergency response teams studied appear to have used an intergovernmental management approach, intentionally or not, to address the challenges created by their regional endeavors.

By sharing a common goal and focusing on the strategic vision, they appear to have used whatever means necessary to adapt to the challenges of their specific situation, insuring the resource sharing processes they seek remain intact. This has included such activities as coordinating purchases, subordinating their authority by relinquishing the power of coordination to external actors, and collaboratively purchasing equipment when they could, or training with the equipment of others when this was not feasible. The

materials on collaboration in Chapter II typically included discussions on policy, power sharing, and activities associated with coordination or cooperation during service delivery. They did not address the mechanics of resource sharing, or other activities normally carried out below the top tiers of an organization. Consequently, this research has served to expand the body of knowledge into this lesser known version of the phenomenon of collaboration identified as resource sharing.

The research contributed to the body of knowledge by identifying the pre-existing conditions needed to spur the development of regional emergency response teams in Hampton Roads. This information may serve as a starting point for further research on similar teams in other regions, or in other professional fields, providing a common means for comparing and contrasting regional endeavors.

The research contributed to the body of knowledge through the development of the collaboration-competition continuum (figure 2.1). Although not a primary focus of the research, being able to differentiate between collaboration, cooperation, coordination and competition becomes desirable as a means of better understanding each of the regional emergency response teams. The continuum may serve as a basis for better understanding other such relationships in future research, but it should be studied further, perhaps seeking some means of applying a system of metrics to permit a quantitative assessment of the types, which would facilitate more rigorous examination.

Utility of the Model of Regional Emergency Response

This study also contributed to the body of knowledge through the development and testing of a model of regional emergency response (figure 1.2). As noted in Chapter IV, the research model provided a sound framework for this research, and will likely

serve as a good starting point for others seeking to explore the phenomenon. However, as suggested in Chapter IV, there are some modifications to the model which might make it more effective, or at least which could serve to better understand regional emergency response. These issues are discussed in the section on recommendations for further research later in this chapter.

The model suggests that leadership plays a vital role in developing the characteristics critical to the establishment of regional emergency response (see figure 1.2). One component of leadership identified in Chapter II was the establishment of a clear goal, encompassing the needs of all involved (Heiftiz, 2006; Kantor, 2006). The findings of the research suggested that this was a critical factor in relation to both the HRMIRT and the STRHMRT. Respondents from both teams reported their perceptions as to the great need for such teams in this region, based upon the potential for large-scale emergencies.

The leadership component of the model also suggested the importance of creating a shared vision to the success of a regional emergency response team. In the HRMIRT, the leadership of the team developed the goal. As to the STRHMRT, the goal was developed by the VDEM, but it is apparently highly aligned with the individual goals of each member agency. Consequently, there appears to be a high level of buy-in from all involved. Illustrative of this were the high numbers of responses stating the teams have made the region better prepared for disaster and the responses stating the teams would stay together in some form even if external support ended. The model does seem to support the assumption that leadership does play a critical role in the development and sustenance of regional emergency response teams.

The model mentioned the importance of managerial issues on a regional emergency response team. These types of issues revolved around such functions as legal enabling, staffing, financial issues and report systems. The model seemed to be useful in assessing several specific concerns. For example, the issue of a cost-sharing aspect to regional emergency response was reportedly a very influential factor, especially in the STRHMRT. Concerns for workers' compensation were also reportedly very important to each team, with both endeavors insuring that such issues were address in writing in some form prior to personnel engaging with the regional effort. Likewise, the concern to expand response capacity through shared staffing were considered important, with each organization using similar patterns for selecting and training people.

In general, the model appears to have been useful in exploring how management influenced the development of regional emergency response teams. However, while the model was of use in studying these issues, it did not indicate that a reporting system played a key role, as was discussed in Chapter IV. Additionally, the influence of laws, rules and regulations were not clearly demonstrated for both teams. For the STRHMRT, the underlying laws and contracts appear to have had a great effect on the formal structure and operations of the team, but, as was discussed in Chapter IV, some elements of the formal structure, such as a strong oversight role for the VDEM HAZMAT Officer and the Portsmouth Fire Department HAZMAT Team leader, are absent in daily practice. This should be a subject for future research, determining if the issue was not effectively studied, or if the model is inaccurate in this respect.

The model was used to study the influence of characteristics considered to be critical to the process of team development and sustenance, including individual organization empowerment, social ties and synergy (Lasker & Weiss, 2003). The model appears to have been very useful in examining organization empowerment and synergy. The former appeared to be a critical issue in team development, and one might posit that the concern to keep all players content and involved became a primary concern in organizing and sustaining each team. Illustrative of this, each locality sets its own selection standards, has the right to decline to respond if they have a pressing need within their own locality, and no one individual appears to have taken a strong role in running the organization, marginalizing other players. Based on the responses in Chapter IV, it is likely that had these issues not been handled in a flexible manner, permitting individual localities to address their needs, the team development process might have been unsuccessful.

Also critical to the development of the team was the concept of synergy. When asked if the regional emergency response team made the region better prepared, there was a unanimous response in the affirmative. The underlying factors to this seem to be related to perceptions of being able to acquire additional trained personnel and specialized equipment in a rapid fashion. The characteristic appears highly related to the goals of each team, suggesting it was highly influenced by leadership functions, as well as by such managerial functions as a concern for cost sharing, thereby limiting the financial commitments required of any single agency.

The model was less useful in exploring the characteristic of social ties. Both teams appear to have strong team identities, and value the importance of building

interpersonal relationships through such activities as quarterly training programs.

However, as discussed in Chapter IV, neither team took a very active role in encouraging social ties, but both teams seem to have strong unit identities, and the leadership appears to generally have strong interpersonal ties. While the model appears to be correct that social ties are an important factor in regional emergency response teams, it does not appear to illuminate how leadership and management have affected the development of social ties in relation to these endeavors. It might be that there are occupational cultural issues at play, but that was not the focus of this study. This should be explored further in future research.

The model also suggested the environment would have an important role to play in the development and sustenance of regional emergency response teams. The model appears to be accurate in this, as the materials collected suggest that the environment has had a positive effect on each team. Both were heavily influenced by the existing hazards in their environment, with participants from both teams noting the hazards in the area demanded the need for specialized emergency response capacity. The majority of the participants noted that their organizations and jurisdictions appeared to have excellent working relationships that supported regional endeavors, which, in turn supported the development of the team. Most of the participants noted their regional emergency response teams have improved inter-organizational relationships, making it easier to initiate new endeavors between localities. Based on these types of issues, the model appears to be valid in assuming the environment has a role in the development and sustenance of each team.

The research was framed on a model developed from the literature and was identified as the model of regional emergency response (see figure 1.2). One specific issue of the model that needs to be further studied and developed is the relationship between leadership and management. The findings of the study suggest that discrete leadership and management functions both had some influence on the development of the critical characteristics necessary for collaboration, as identified in figure 1.2. However, the findings did not illuminate any of the relationship between leadership and management as discrete concepts, nor how they might have influenced one another. As noted in Chapter II, it is possible that individual perspectives towards leadership and management might influence each other, but, ultimately, there was insufficient information on this possible relationship collected during this research. Further research into this would be needed to further understand the relationship between leadership and management, if one does indeed exist.

Limitations of the Research

The research was conducted in Hampton Roads, a region in southeast Virginia. The region is unique in many ways, making any attempt to project the findings of this research to other regions speculative. The research methodologies used were qualitative in nature, using an interpretivist approach in data analysis. As such an approach is highly subjective to the individual researcher, it is probable that other researchers conducting similar research in the topic in Hampton Roads would not arrive at identical conclusions. In an attempt to provide greater objectivity, qualitative research is generally presented using a rich narrative format, which was done with this study. Additionally, interviews of

numerous participants, while not providing statistically controllable inter-respondent reliability, should insure that all relevant perspectives are incorporated. As noted in Chapter IV, this research involved the interviews of the entire population of the leadership of both regional emergency response teams, which should have somewhat minimized the overall impact of the subjective nature of qualitative research. The research limitations are discussed in greater detail in Chapter III, as are means of minimizing them and validating the information.

Potential Researcher Bias

As noted in Chapter III, qualitative research is subject to researcher bias in interpretation (Cresswell, 2003; Denzin, 1998). If a researcher is, or becomes, intimately involved with a subject, there is the possibility that their perceptions may be skewed, potentially leading to a flawed interpretation of the information collected, or to a presentation of the materials that is inaccurate. Such a bias may be wholly unintentional, but the possibility of it exists. Consequently, it is appropriate for the researcher to provide the reader with information on the potential bias. As noted in Chapter III, the author of this research has been engaged in local emergency response since 1977, primarily in the local fire service.

Recommendations for Developing Regional Teams

At the conclusion of each interview, participants were asked what advice they would give to others seeking to develop a regional emergency response team. They were asked to think globally, not restricting their answers to any one type of emergency or any

locality. They were prompted to think not only of what they believed should be done, but what should be avoided. A selection of the more frequently cited responses is noted in table 5.1.

Many of the responses appear somewhat simplistic, but they do provide some interesting considerations. The concept of seeking support from upper management was voiced by nearly all of the participants, suggesting that, at least in their minds, the impetus for these teams was bottom-driven, with the upper management being solicited for support and sponsorship, rather than for leadership.

Table 5.1 : Recommendations for Developing Regional Emergency Response Teams

<u>Specific Recommendation</u>	<u>Associated Pre-condition</u>
Seek support from upper management	Organizational support
Insure the goal is clear and is shared	Clear goal
	Strategic focus
Clearly identify funding streams	Cost-sharing
Clearly identify roles and responsibilities for all involved	Organizational support
	Strategic focus
Research needs before planning	Clear goal
	Strategic focus
Plan before taking action	Strategic focus
Maintain open discussions	Organization support
	Strategic focus

Another commonly voiced concern was the need to establish what one participant from the STRHMRT referred to as an “even playing field.” This seemed to mirror the concern of another that it was vital that no one player attempted to, or was permitted to, be a “bulldozer,” taking full control of the endeavor based on his views or the needs of his organization. To some extent, this is reflective of the concept known as domain consensus, where all agree they have a common issue and that success in addressing it requires they work together. None of the participants in this study noted such issues with

either the HRMIRT or the STRHMRT though, interestingly enough, several mentioned other regional emergency response teams in Hampton Roads in a disparaging manner. In reference to one such team mentioned by several participants, it had become what one participant referred to as “totally ego driven.”

It was interesting that many of the participants noted the importance of building relationships with others, creating and maintaining interpersonal communications pathways between all players. Although this is supported by the literature, it was particularly interesting in that a recommendation often reported was that the teams meet often, which is not the case in either the HRMIRT or the STRHMRT. As was noted earlier, many participants perceive the need to meet more frequently, but they have not been able to do so on a regular basis other than the brief meetings included with their quarterly training sessions.

Recommendations for Future Research

The participants in this research ranged in rank from Firefighter, a non-supervisory, line employee, to a Battalion Chief, a mid-ranking officer in the fire departments represented. In neither team was there anyone of senior rank within the organization serving a key administrative role. As described by the participants, within each organization there was a senior manager who had a broad oversight role for the organization’s participation with the regional endeavor, but they typically became involved only when an issue arose that was unsolvable at lower levels. Because of the expressions of support from senior staff voiced by the participants, this was somewhat surprising. Exploring this aspect of the phenomenon might very well be a fruitful avenue

of research, seeking to identify why such an approach evolved. It might be determined that because of the limited number of grants and relatively low financial burden associated with the endeavors, or because of the lack of history of significant events of this type within the region, higher ranking representatives of the organization are perceived to be unnecessary.

Testable Proposition 1: The greater the monies associated with a program, the higher the organizational rank of those involved in the daily administration of the program

Testable Proposition 2: The greater the emergency incidence level with a program, the higher the organizational rank of those involved in the daily administration of the program.

With the exception of the United States Coast Guard liaison, all of the participants were currently employed by local fire departments, or had significant experience with a local fire service agency. Consequently, their ability to work together well in unanimity might be associated with occupational cultural patterns to which all have been acculturated. The narrow focus on fire service organizations within the membership of each team may also serve as a delimiting factor in seeking participation from other occupations in the administration of each team. It is possible this creates an environment where many of the potential inter-organizational conflicts noted in the relevant literature never arise. It is quite possible that, given a more heterogeneous team composition, team dynamics would be significantly different, with a greater potential for the introduction of greater conflict into team administration.

Testable Proposition 3: The lesser the variance in occupational backgrounds represented in an inter-organizational endeavor, the less potential internecine troubles will occur.

The research focused on those identified as deeply engaged in the administration of the team. All of those interviewed were white males. Demographically speaking, this group was clearly not representative of their communities, but the United States Fire Administration (USFA) does not report demographic factors in their assessments of the United States Fire Service. Presumably, there are women and minorities engaged in the operations of each of these regional emergency response teams, although this was not studied, but they are not involved in team administration. Over time, this may change as women and minorities acquire more tenure and greater rank within their organizations, achieving greater responsibilities within their agencies. At this time, the majority of the participants reported no significant interpersonal conflicts in the groups, which may be related to their homogeneity. Presumably, more diversity in the composition of the team leadership will change the decision-making dynamics of the group.

Testable Proposition 4: The greater the diversity of the membership of the leadership team, the greater the potential for interpersonal conflict, which may impact team administration.

When asked if they could conceive of any factor that might lead their organization to withdraw its participation in the regional emergency response team, the majority of the participants responded similarly. They stated if the financial cost associated with participation became so high it negatively impacted other organizational programs, their organization might withdraw from the regional emergency response team, or at least

significantly alter their participation level. The majority of the participants did note their organizations would attempt to continue the regional emergency response team in some fashion, regardless of the economic climate. Since the inception of the teams, this has not been an issue, however, recent economic trends in the United States have caused federal, state and local governments to become far more introspective and cautious concerning organizational programs and the effective use of diminishing resources. An interesting follow-up to this research will be to examine both the HRMIRT and the STRHMRT over the next few years, determining if, in fact, the endeavors remain intact during this recession and, if so, if and how they alter their administration and operations.

Testable Proposition 5: When faced with a choice of cutting budgets for daily operations or regional emergency response teams, local governments will eliminate or reduce funding to the regional emergency response teams, regardless of their perceived need or efficacy.

As noted in this chapter, the research findings suggest that in a resource sharing relationship, which is associated with regional emergency response, the most critical factor in developing and sustaining such a relationship is the clarity of the goal. If the mission is perceived to be sufficiently valued by all players, it is possible that the formal structures, documents and other characteristics typically associated with the concept of organizations becomes increasingly less significant. Such a presumption is suggested by the findings of this research. Further study of the issues would be necessary to better understand and confirm this presumption.

Last, the findings suggest the crucial importance of maintaining a strategic focus. At times, the findings almost suggest this is the most crucial aspect in the development of

a regional emergency response team. This should be studied further, as, if it is true, it may aid in the development of future teams by insuring the focus is on the outcome, as opposed to on systemic inputs or puts, which is very much supported by the literature on systems theory (Kast & Rosensweig, 1992; Katz & Kahn, 1992; Sylvia et al., 1996).

REFERENCES

- Aamodt, M.G. (2007). *Industrial/organizational psychology, 5th edition*. Belmont, CA: Thomson.
- Adler, P.A. & Frey, J.H. (1998). Interviewing: The art of success. In N.K. Denzin & Y.S. Lincoln (Eds.), *Collecting and Interpreting Qualitative Materials* (pp. 47-79). Thousand Oaks, CA: Sage.
- Agranoff, R. (1986). *Intergovernmental management: Human services problem solving in six metropolitan areas*. Albany, NY: State University of New York Press.
- _____. (2001). Managing within the matrix: Do collaborative intergovernmental relations exist? *Publius*, 31 (2), 31-56.
- Agranoff, R, and McGuire, M. (2003). *Collaborative public management: New strategies for local governments*. Washington, D.C.: Georgetown University Press.
- American Bar Association. (2006). *Hurricane Katrina task force subcommittee report*. Washington, D.C.: American Bar Association.
- Auf der heide, E. (1989). *Disaster response: Principles of preparation and coordination*. St. Louis, MO: Mosby.
- Basalo, V. (2003). U.S. regionalism and rationality. *Urban Studies*, 40 (3), 447-462.
- Bennis, W. & Biederman, P. W. (1997). *Organizing genius: The secret of creative collaboration*. Reading, MA: Addison-Wesley.
- Block, P. (1991). *The Empowered Manager*. San Francisco, CA: Jossey-Bass.
- Brenner, N. (2002). Decoding the newest “metropolitan regionalism” in the USA: A critical review. *Cities*, 19 (1), 3-22.

- Bruno, H. (1997). Being fully prepared for terrorist attacks. *Firehouse*, 22 (1), 10.
- Bryson, J.M., Crosby, B.C. & Stone, M.M. (2006). The design and implementation of cross-sector collaborations: Propositions from the literature. *Public Administration Review*, 66 (6), 44-55.
- Burns, J. (1978). *Leadership*. New York, NY: Harper & Row.
- Canton, L.G. (2007). *Emergency management: Concepts and strategies for effective programs*. Hoboken, NJ: Wiley.
- Cherrington, D.J. (1995). *The management of human resources*, 4th edition. Englewood Cliffs, NJ: Prentice Hall.
- Cigler, B. A. (1988) Emergency management and public administration. In M. T. Charles & J. C. K. Kim (eds.) *Crisis management: A Casebook*, (pp 5-19) Springfield, IL; Charles C. Thomas Publications.
- _____. (1994). Pre-conditions for multicommunity collaboration. In *Understanding of multicommunity collaboration* (pp. 39-58). AGES staff report 94403. Washington, DC: USDA.
- Clarke, L. (1999). *Mission improbable: Using fantasy documents to tame disaster*. Chicago, IL: University of Chicago Press.
- Coleman, J. F. (2001). *Managing major fires*. Tulsa, OK: Pennwell Publishing.
- Comfort, L. K. (2002). Managing intergovernmental responses to terrorism and other extreme events. *Publius*, 32 (4), 29-49.
- Congressional Research Service. (2006). *Federal emergency management and homeland security organization: Historical developments and legislative options*. August 1, 2006. Washington, D.C. Congressional Research Service.

- Cresswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*, 2nd edition. Thousand Oaks, CA: Sage.
- Defense's Offense. (2005). Defense's offense. *Fire Chief*, 49 (4), 96.
- Denzin, N.K. (1998). The art and politics of interpretation. In N.K. Denzin & Y.S. Lincoln (Eds.), *Collecting and Interpreting Qualitative Materials* (pp. 313-342). Thousand Oaks, CA: Sage.
- Denzin, N. K. & Lincoln, Y.V. (1998). *Collecting and interpreting qualitative materials*. Thousand Oaks, CA: Sage.
- Dodge, W. (1996). Regional excellence. *National Civic Review*, 85 (2), 4-7.
- Drabek, T. E. (1990). *Emergency management: Strategies for maintaining organizational integrity*. New York, NY: Springer-Verlag.
- Duncan, R. A. (1995). In case of emergency: Emergency management coordination at the local level. A dissertation at George Mason University. May 17, 1995.
- Fairholm, M.R. (2004). Different perspectives on the practice of leadership. *Public Administration Review*, 64 (5), 577-590.
- Fayol, H. (1949). *General and industrial management*. London: Pitman & Sons.
- Forsman, D. P. (2002). Intergovernmental cooperation. In D. Compton and J. Granito (Eds.), *Managing Fire and Rescue Services* (pp. 485-506. Washington, D.C.: International City/County Management Association.
- Friberg, J. C., Zeigler, D.J. & Fortner, G.K. (1990). Eye to eye with hurricane Gloria on Virginia's Tangier Island. *Coastal Management*, 18, 167-178.

Gabriel, G. (2000). What is emotional intelligence? Available at:

http://www.alite.co.uk/readings/brain_and_mind/brain_and_mind2.htm

Accessed August 30, 2008.

Gans, S. P., and Horton, G. T. (1975). *Integration of human services: The state and municipal levels*. New York, NY: Praeger

Ghani, U.A. (2006). The leader integrator: An emerging role. In F. Hesselbein & M. Goldsmith (Eds.), *The leader of the future 2* (pp. 241-254). San Francisco: Jossey-Bass.

Goldsmith, M., Greenberg, C.L., Robertson, A., & Hu-Chan, M. (2003). *Global leadership: The next generation*. Upper Saddle River, NJ: Prentice Hall.

Gratton, L. (2005). Managing cooperatively within organizations. In M. Losey, S. Mesinger, & D. Ulrich (Eds.), *The future of human resource management* (pp. 312-322). Hoboken, NJ: John Wiley and Sons.

Guffey, M. (2003). Collaborative networks: The initial design strongly influences the outcome. *The Public Manager*. Summer, 42-44.

Gulick, L. (1969). Notes on the theory of organization. In L. Gulick & L. Urwich (Eds.), *Papers on the science of administration* (pp. 1-46). New York, NY: Augustus M. Kelley.

Haddow, George, and Jane Bullock. (2005). *Introduction to Emergency Management*, 2nd edition. London, UK: Butterworth-Heinemann.

Hagebak, B.R. (1982). *Getting local agencies to cooperate*. Baltimore, MD: University Park Press.

- Hamilton, D. (2000). Organizing government structure and governance functions in metropolitan areas in response to growth and change: A critical overview. *Journal of Urban Affairs*, 22 (1), 65-84.
- _____. (2002). Regionalism in metropolitan Chicago: A work in progress. *National Civic Review*, 91 (1), 63-80.
- Hamilton, D. K., Miller, D. Y. & Paytas, J. (2004). Exploring the horizontal and vertical dimensions of the governing of metropolitan regions. *Urban Affairs Review*, 40 (2) 147-182.
- Hampton Roads Planning District Commission. (2006). City and county data. Available at <http://www.hrpdc.org/citycounty> on December 23, 2006.
- Heifetz, R.A. (2006). Anchoring leadership in the work of adaptive progress. In, F. Hesselbein & M. Goldsmith (Eds.), *M. The leader of the future 2* (pp. 73-84). San Francisco: Jossey-Bass.
- Hesselbein, F. (2005). Leading change: An imperative of leadership. In M. Losey, S. Mesinger & D. Ulrich (Eds.), *The future of human resource management* (pp. 341-347). Hoboken, NJ: John Wiley and Sons.
- Huberman, A.M. & Miles, M.B. (1998). Data Management and Analysis. In N.K. Denzin & Y.S. Lincoln (Eds.), *Collecting and Interpreting Qualitative Materials* (pp. 179-210). Thousand Oaks, CA: Sage.
- Iaeger, P. (2004). Collaboration: Exploration, innovation and expanded potential. *IAEM Bulletin*, 21 (10), 1(2)
- Ivancevich, J.M., & Matteson, M.T. (1996). *Organizational behavior and management*, 4th edition. Chicago, IL: Irwin.

- Kamareck, E. C. (2004). Applying 21st-century government to the challenge of homeland security. In J.M. Kamensky & T.J. Burlin (Eds.), *Collaboration: Using networks and partnerships* (pp. 103-146). Lanham, MD: Rowman and Littlefield Publishers.
- Kamensky, J. M., Burlin, T. J. & Abramson, M.A. (2004). Networks and partnerships: collaborating to achieve results no one can achieve alone. In J.M. Kamensky & T.J. Burlin (Eds.), *Collaboration: Using networks and partnerships* (pp. 3-20). Lanham, MD: Rowman and Littlefield Publishers.
- Kanter, R.M. (1996). World-class leaders: The power of partnering. In F. Hesselbein, M. Goldsmith & R. Beckhard (Eds.), *The leader of the future* (pp. 89-98). San Francisco, CA: Jossey-Bass.
- Kast, F.E. & Rosenzweig, J.E. (1992). General systems theory: Applications for organization and management. In J.M. Shafritz & J.S. Ott (Eds.), *Classics of organization theory*, 3rd edition (pp. 294-307). Belmont, CA: Wadsworth.
- Katz, D., & Kahn, R.L. (1992). Organizations and system concept. In J.M. Shafritz & J.S. Ott (Eds.), *Classics of organization theory*, 3rd edition (pp. 270-280). Belmont, CA: Wadsworth.
- Kiefer, J.J. & Montjoy, R.S. (2006). Incrementalism before the storm: Network performance for the evacuation of New Orleans. *Public Administration Review*, 66. Supplement to (1), 122-130.
- Kettl, D.F. (2002). *The Transformation of Governance: Public Administration for the 21st Century*. Baltimore, MD: Johns Hopkins University Press.

- _____. (2003). *The states and homeland security: Building the missing link*. New York, NY: Century Foundation.
- _____. (2006). Managing boundaries in American administration: The collaborative imperative. *Public Administration Review*, 66 (6), 10-19.
- _____. (2007). *System under stress: Homeland security and American politics*. Washington, DC: CQ Press.
- Landy, F. J. & Conte, J. M. (2004) *Work in the 21st century: An introduction to industrial and organizational psychology*. Boston, MA: McGraw-Hill.
- Lasker, R.D. & Weiss, E.S. (2003). Broadening participation in community problem solving: A multidisciplinary model to support collaborative practice and research. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 80 (1), 14-60.
- Levine, S. (1998). *Getting to resolution: Turning conflict into collaboration*. San Francisco, CA: Berret-Kuehler Publications.
- Lindstrom, B. (1998). Regional cooperation and sustainable growth: Nine councils of government in northeastern Illinois. *Journal of Urban Affairs*, 20 (3), 327-343.
- Linsky, M., & Heifitz, R.A. (2002). *Leadership on the line*. Cambridge, MA: Harvard Business School Press.
- Loflin, M.E. & Sanders, R.E. (2002). Evaluating local risks and planning for the necessary resources. In D. Compton & J. Granito (Eds.), *Managing fire and rescue services* (pp.39-66). Washington, D.C.: International City/County Management Association.

- McGuire, M. (2006). Collaborative public management: Assessing what we know and how we know it. *Public Administration Review*, 66 (6), 33-43.
- Maciariello, J.A. (2006). Peter F. Drucker on executive leadership and effectiveness. In F. Hesselbein & M. Goldsmith (Eds.), *The leader of the future 2* (pp. 3-30). San Francisco: Jossey-Bass.
- Merriam, S. B. (2002). Assessing and evaluating qualitative research. In S.B. Merriam and Associates (Eds.), *Qualitative research and practice* (pp. 18-36) .San Francisco, CA: Jossey-Bass.
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook*, 2nd edition. Thousand Oaks, CA; Sage.
- Morgan, G. (1997). *Images of organization*, second edition. Thousand Oaks, CA: Sage.
- Nagy Hesse-Biber, S. & Leavy, P. (2006). *The practice of qualitative research*. Thousand Oaks, CA: Sage.
- Nicholson, W. C. (2003). *Emergency response and emergency management law: Cases and materials*. Springfield, IL: Charles C. Thomas.
- Orfield, M. (1997). Metropolitcs: Coalitions for regional reform. *The Brookings Review*, 15 (1), 6-9.
- O'Toole, L. J, Jr. (1997). Treating networks seriously: Practical and research agenda in public administration. *Public Administration Review*, 57 (1), 45-52.
- Perroni, C. (1991). *Mutual aid: Lessons learned from the California system*. United States Fire Administration Technical Report Series report number 42. Emmitsburg, MD: United States Fire Administration.

Porter, D.R. & Wallis, D.R. (2002). *Exploring ad hoc regionalism*. Cambridge, MA:

Lincoln Institute of Land Policy.

Poulin, T.E. (2005). "National Threat - Local Response: Building Local Disaster

Capacity With Mutual Aid Agreements." *PA Times*, 28(3), 3.

_____. (2006a). Ties that Bind: Conditions Impacting the Development of Mutual

Aid Agreements. A paper presented at the annual meetings of the Southeastern

Conference for Public Administration, Athens, GA, September 27-30, 2006.

_____. (2006b). Mutual Aid Agreements Build Local Disaster-Response Capacity. In

R.L. Kemp (Ed.), *Homeland Security Handbook for Citizens and Public Officials*

(pp. 137-139). Jefferson, NC: McFarland.

_____. (2007a). Concurrent Jurisdiction: Regional Response and the 800-

pound Gorilla in the Room. *IAEM Bulletin*, 24 (7), 1.

_____. (2007b). Musical Chairs: The Evolving State of Emergency Management.

PA Times, 30 (8), 21.

_____. (2007c). Networks of Neighbors: EM Partnerships in Hampton Roads,

Virginia, *IAEM Bulletin*, 24 (10), 8+.

_____. (2008). Lessons Learned: A Comparison of the Uniform Militia Act of 1792

and the Homeland Security Act of 2002. In J. Pinkowski (Ed.), *Homeland*

Security Handbook, 1st edition, (pp. 25-38). Boca Rotan, FL: CRC Press.

Probsdorfer, J. (2001). The regional public-private civic infrastructure of Hampton Roads

and its impact on the implementation of economic development initiatives. A

dissertation at Old Dominion University.

- Putnam, R. D. (1993). *Making democracy work*. Princeton, N.J.: Princeton University Press.
- Robertson, D. J. (2003). Securing the homeland across jurisdictional boundaries. *Public Manager*, Spring, 31-33.
- Ruchelman, L.R. (2000). *Cities in the third wave*. Chicago, IL: Burnham.
- Rudman, W. B., Clarke, R. A. & Metzl, J. F. (2003). *Drastically underfunded, dangerously unprepared*. The report of the independent task force on emergency responders. Council on Foreign Relations: Washington, D.C.
- Rusk, D. (1993). *Cities without suburbs*, 2nd edition. Washington, D.C.: Woodrow Wilson Center Press.
- Schechter, B. (1996). Metropolitan governance: A bibliographic essay. *National Civic Review*, 85 (2), 63-66.
- Schneid, T. D. (1995). *Fire law: The liabilities and rights of the fire service*. New York, NY: John Wiley and Sons.
- Schein, E.H. (1996). Leadership and the organizational culture. In F. Hesselbein, M. Goldsmith & R. Beckhard (Eds.), *The leader of the future* (pp. 59-70). San Francisco, CA: Jossey-Bass.
- _____. (2006). Leadership competencies: A provocative new look. In, F. Hesselbein & M. Goldsmith (Eds.), *The leader of the future 2* (pp. 255-264). San Francisco: Jossey-Bass.
- Schmoke, K. L. (1997). Meeting the challenge of America's cities. *The Brookings Review*, 15 (1), 4-5.

- Seidman, H. (1998). *Politics, position, and power: The dynamics of federal organization*, 5th edition. New York, NY: Oxford University Press.
- Sylves, R.T. (2007). Federal emergency management comes of age: 1979-2001. In Rubin, C.B. (ed.) *Emergency management: The American experience 1900-2005*. Fairfax, VA: Public Entity Risk Institute.
- Sylvia, R.D., Sylvia, K.M., & Gunn, E.M. (1996). *Program planning and evaluation for the public manager*. Long Grove, IL: Waveland Press.
- Taylor, S. J. & Bogdan, R. (1998). *Introduction to qualitative research methods*. New York, NY: John Wiley and Sons.
- Toffler, A. & Toffler, H. (1994). *Creating a new civilization*. Atlanta, GA: Turner Publishing.
- Trottier, T., Van Wart, M. & Wang, X. (2008). Examining the nature and significance of leadership in government organizations. *Public Administration Review*, 68 (2), 319-333.
- United States Coast Guard. (2002). *Hampton Roads Maritime Firefighting Contingency Plan*.
- United States Department of Homeland Security. (2006). *National Response Framework*. Washington, DC: United States Department of Homeland Security.
- United States Environmental Protection Agency. (2000). *The Emergency Planning and Community Right-to-Know Act*. Washington, DC: United States Environmental Protection Agency.

_____. (2009). Emergency Planning and Community Right-to-Know Act Overview.

Available at: <http://www.epa.gov/emergencies/content/lawsregs/epcraover.htm>.

Accessed on April 10, 2009.

United States Fire Administration. (2006). *Four years later: A second needs assessment of the U.S. fire service. A cooperative study authorized by U.S. public law 108-767*. Emmitsburg, MD: United States Fire Administration.

United States General Accounting Office. (2001). *Combating terrorism: Selected challenges and related recommendations*. GAO report number GAO-01-822. Washington, D.C.: U.S. General Accounting Office.

Wallis, A. D. (1994). Inventing regionalism: The first two waves. *National Civic Review*. Spring-Summer, 159-174.

_____. (2007). The new regionalism. Available at: http://www.munimall.net/eos/2002/wallis_regionalism.nclnk (Accessed November 16, 2007)

Waugh, W. L., Jr. (1990). Emergency management and state and local government Capacity. In R.T. Sylves & W.L. Waugh, Jr. (Eds.), *Cities and disaster* (pp. 221-235). Springfield, IL: Charles C. Thomas Publications.

_____. (1996). Disaster management for the new millennium in emergency Management. In R.T. Sylves & W.L. Waugh, Jr. (Eds.), *Disaster Management in the United States and Canada*, 2nd edition (pp. 334-359). Springfield, IL: Charles C. Thomas Publishers.

_____. (2000). *Living with hazards, dealing with disasters: An introduction to emergency management*. Armonk, NY: M.E. Sharpe.

- Waugh, W. L., Jr. & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review*, 66 (6), 131-140.
- Waugh, W. L., Jr. & Sylves, R. T. (1996). Intergovernmental relations in emergency Management. In R.T. Sylves & W.L. Waugh, Jr. (Eds.), *Disaster Management in the United States and Canada*, 2nd edition (pp. 46-68). Springfield, IL: Charles C. Thomas Publishers.
- _____. (2002). Organizing the war on terrorism. *Public Administration Review*, September 15, 2002 (special issue), 145-154.
- Yin, R.K. (1994). *Case Study Research: Design and Method*, 2nd edition. Sage; Thousand Oaks, CA.
- Zeemering, E.S. (2008). Governing interlocal cooperation: City council interests and the implications for public management. *Public Administration Review*, 68 (4), 731-741).
- Zeidner, M., Roberts, R.D., & Matthews, G. (2008). The science of emotional intelligence: Current consensus and controversies. *European Psychologist*, 13 (1), 64-78.
- Zeigler, D.J. (2003). *Evacuation plans for nuclear reactor accidents: Retrospect and prospect*. A paper presented at the annual meetings of the Association of American Geographers, held in New Orleans, LA, March 8, 2003.

APPENDIX A**Interview Instrument
Old Dominion University****Dissertation: Thomas E. Poulin**

Date: ____/____/____ Time Start: ____:____ Time End: ____:____ Transcribed: ____

Location: _____

Participant Name _____

Participant Title: _____

Participant Organization: _____

Collaborative Team (circle one): HRMIRT SHMRRT

Collaborative Team Role(s): _____

Introduction

- Introduce researcher
- Thank participant for assisting. Remind them their participation is voluntary.
- Explain purpose of research: *Develop a better understanding of collaborative emergency response teams.*
- Ask if it is permissible to audio record the interview.
- Ask if they have any questions.

Leadership

1. Why was the team formed?
2. Who were the key players in the development of the team?
3. How were potential member organizations originally identified and approached?
4. How does the team currently identify potential member organizations?
5. What is the formal mission of the team?
6. Who established the formal mission?
7. What are the benefits for organizations continuing to participate?

Management

8. How was the team established and organized (i.e., structure, organization, responsibilities, etc.)?
9. How have organizations involved dealt with issues associated with organizational concerns such as roles, responsibilities and authority for those involved?
10. How are individual team members identified and selected by their organizations?

11. Are there criteria for the selection of individuals for team membership and, if so, what are they?
12. Do team members require specialized training and, if so, how are such training needs identified?
13. How does your team oversee and schedule training (i.e., designated training officer, committee, other)?
14. Does the team integrate training into the training programs of member organizations and, if so, how?
15. How does the team address interoperability with equipment and communications between team members from differing organizations?
16. Does the team purchase and distribute equipment and, if so, what are the processes?
17. Have you experienced any challenges with laws, rules or regulations that influenced the ability of your team to function and, if so, what were they?
18. Does your organization reimburse the organizational costs for team member participation?
19. If an employee is injured or killed when engaged in team activities, what organization is responsible for medical bills or death benefits?
20. How is the team activated or deployed?

21. Are team members obligated to respond and, if so, what is the time frame for the response to begin?

Individual Organizational Empowerment

22. Did the organization have any concerns with entering or remaining with the team and, if so, what were they?
23. What has been the role of local government in supporting the team, and what could they do to provide greater support?
24. What are individual organizations expected to contribute to the team?
25. Do you integrate or align team activities with that of your primary organization and, if so, how?

Social Ties

26. Have relationships between organizations involved in the team impacted the development of the team and, if so, how?
27. Have relationships between individual engaged in the team impacted any other programs, activities or relationships between member organizations and, if so, in what ways?
28. Does your organization offer any special recognition or benefits to members of the team and, if so, what are they?
29. Does the team hold regular meetings and, if so, how often?

30. Does the team hold regular training sessions and, if so, how often?
31. Does the team have a distinctive uniform or emblem that distinguishes them from other employees and, if so, what is it?
32. How does the team engage in routine communication with members?

Environment

33. Does the team integrate private sector organizations and, if so, how and why?
34. What are the benefits, if any, for organizations participating?
35. What are the costs, if any, for organizations participating?
36. What do you believe are the roles of the state and Federal government in supporting the team, and what could they do to provide greater support?
37. Does your team receive financial support from the state and Federal government?
If so, in what form and approximately what percentage is it of your budget?
38. If your team does receive state or Federal financial support, do you believe the team would continue if that funding stopped? If yes, would there be any changes and, if so, what would they be?

Synergy

39. Does the team make deliberate efforts to engage all organizations in planning and decision-making and, if so, how?
40. Do you believe this team has made the region better prepared for disaster? If so, what could be done to make the region better prepared?
41. What additional collaborative emergency response endeavors do you believe should be considered in the region?
42. Are there any reasons you can think of that would make your organization question continued participation in the team and, if so, what are they?
43. What advice would you offer to organizations attempting to create a collaborative team such as yours?

References

44. What are the names of people from other organizations that you routinely interact with concerning team business?
45. Who in your primary organization do you routinely interact with concerning team business?

Close interview

- Thank participant
- Ask if they have any questions
 - Provide them contact information, in case they have questions later
- Ask if it is acceptable to make additional contact, if needed

APPENDIX B

Thematic Mapping for Data Reduction

Concept	Variable	Instrument Question
Leadership	Goal	1, 5, 6
	Entrepreneurial Vision	1, 2
	Unit Identity	3, 4, 7
Management	Legal Enabling	9, 17
	Organization and Management	9, 17, 19
	Staffing	8, 9, 10, 11, 15, 16, 18
Individual Organizational Empowerment	Local Sovereignty	10, 14, 22, 42
	Individual Goals	12, 25, 42
Social Ties	Interpersonal Relationships	14, 28, 29, 30, 31, 32
Synergy	Increased Service Delivery capacity?	12, 13, 20, 21, 34, 35, 39
Environment	Inter-sectoral Boundaries	9, 26, 33
	Interorganizational Boundaries	14, 23, 24, 26, 36, 37, 38
	Hazard Specific Issues	1, 40, 41
	Existing Relationships	25, 26, 27

VITAE

Thomas E. Poulin holds associates degrees in business management and fire science technology, a bachelor's degree in psychology, and a master's degree in human resource management. The cognate for his doctorate in public administration and urban policy was educational leadership. He has served in emergency management since 1977, with experience that includes incident command, planning and research, disaster planning, fire suppression, emergency medical care, hazardous materials response, SCUBA rescue, personnel development, and critical incident stress management.

He is a Fellow of the Institute of Fire Engineers, a British-based, international professional association. He is a Chief Fire Officer Designee of the Center for Public Safety Excellence, and is listed as a subject matter expert in emergency management by the American Society for Public Administration. He is an alumnus of the National Fire Academy's Executive Fire Officer Program. He holds, or has held, various professional certifications, including Fire Officer III, Fire Instructor IV, Fire Inspector II, Cardiac Rescue Technician (MD), Emergency Medical Technician (VA) and Hazardous Materials Specialist.

Poulin has served on the council for the Hampton Roads Chapter of the American Society for Public Administration, the board of directors of the Virginia Social Science Association, and was recently elected to the board of directors for the American Society for Public Administration Section on Emergency and Crisis Management.

He lives in Chesapeake, VA, with his wife Linda, and his two daughters, Samantha and Emily.