A Framework for Understanding and Designing Partnerships in Emergency Preparedness and Response

By

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Abstract

Using partnerships between the public and private sectors to provide emergency preparedness and response (EPER) functions has become a useful and necessary tool for improving overall emergency management in the United States. Privatization has been studied comprehensively in many areas that are ripe for partnerships, but not in the field of emergency preparedness and response. Thus, this research fills that gap and advises both the architects of EPER partnerships and the policy makers that influence them, how to design partnerships based on the experience of former and existing EPER partnerships.

In order to learn from existing partnerships, this research uses a case study method. After identifying and interviewing representatives from 16 EPER partnerships, this research classifies those partnerships based on several attributes. There are three general categories for those descriptive attributes: structural, functional and event. The structural attributes represent characteristics of a partnership that an architect has decision making power over. Functional and event attributes, on the other hand, are dependent on the EPER function being provided and are thus largely pre-defined for an architect. This research identifies links between the independent variables—the functional and event attributes—and the dependent variables—the structural attributes—that will guide architects and policy makers in their decision making processes.

In general, this research found that there are several event and functional attributes of successful past EPER partnerships that can inform the structural decisions of the architect. Also, this research finds that there are several lessons the policy maker can take from past EPER partnerships, including the importance of allowing and encouraging flexibility in the partnership design process.

Thesis Supervisor: Annalisa Weigel
Assistant Professor, Aeronautics and Astronautics and Engineering Systems
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Author Biography

Jenn Gustetic became interested in the issues at the intersection of business, policy and security through several internships: congressional intern for Congressman Jack Kingston on Capital Hill in 2003; senior technical intern for the Tactical Tomahawk Program at Raytheon Missile Systems in Tucson, AZ in 2004; and policy intern for the Transportation and Infrastructure Security Policy Office at the Department of Homeland Security in 2006. In 2005, she received her bachelor’s degree, cum laude, in aerospace engineering from the University of Florida and decided to enrich her systems knowledge by attending the Technology Policy Program at MIT for graduate school. In 2005, she received the Department of Homeland Security Fellowship and was supported by DHS for the entirety of her graduate studies. Jenn has consistently been involved in leadership activities and is passionate about the development of young ethical leaders, the use of relationships to solve a multitude of international problems, and last, but not least, University of Florida sports.

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CHAPTER 1: Introduction and Motivation

Ultimately this research strives to guide partnership architects and policymakers in the steps they can take to create and encourage partnerships for emergency preparedness and response (EPER) services. Partnerships between the public and private sectors to provide EPER services have become commonplace. These partnerships can resemble a spectrum of structures including those that include only public partners, more formal partnerships such as contracts or grants, or collaborative partnerships that engage a diverse group of stakeholders. This study strives to learn from the history of these partnerships to guide future architects in creating partnerships to provide common or emergent EPER services.

1.1 Research Questions

By identifying the common characteristics of EPER partnerships, termed ‘attributes’, this research discovers patterns and trends in those characteristics which can inform how future partnerships should be designed. There are three general categories for those descriptive attributes: structural, functional and event. The structural attributes represent characteristics of a partnership that an architect has decision making power over. Functional and event attributes, on the other hand, are completely dependent on the EPER service being provided and are thus pre-defined for an architect. Thus, this research will identify links between the independent variables—the functional and event attributes—and the dependent variables—the structural attributes—that will guide architects and policy makers in their decision making processes. The research questions this thesis will answer are:

1. **What characteristics of EPER services can inform decisions about designing partnerships to provide those services?**

2. **What lessons can architects and policy makers learn, from existing EPER partnerships, which can guide future partnership architectures?**

The primary goal of this research then is to guide decision makers in the process of designing and encouraging partnerships for emergency preparedness and response activities.
1.2 Motivation for Research

Embedded in the research questions is an assumption that partnerships to provide emergency preparedness and response services are desirable. It is the belief of this author that partnerships for emergency preparedness and response are not only desirable, but necessary to capture the expertise and resources of both sectors. Effective partnerships can help to optimize the overall emergency management efforts in the United States. For example, in the wake of catastrophic disasters—such as hurricane Katrina in 2005—both the public and private sectors attempt to help with the response effort independently. Often the individual efforts of both sectors can actually be working against each other by clogging up critical transportation modes, complicating procedures for humanitarian relief, and/or miscommunicating critical information. Therefore, without coordination, the public and private sector often work against each other even though they share similar goals.

In a more visible area, 85% of the nation’s critical infrastructure is owned and/or operated by the private sector. Critical infrastructure includes any infrastructure that is required in order for the economy to operate and citizens to act smoothly: roads, the air transportation system, the internet, energy production facilities, hospitals and schools, etc. The public sector has a large stake ensuring that these facilities and networks are maintained, protected, and resilient after an emergency. However, since the public sector does not own or operate the majority of them, partnering with the private sector is essential. If there is not a sufficient economic incentive to motivate the private sector to participate in EPER services on their own, then the government must step in—through partnerships or regulation—to ensure those services are provided. Interestingly, the Department of Homeland Security (DHS) oversees critical infrastructure in the US yet does not have the statutory ability to regulate any of the sectors, except for the chemical industry. Thus, the best option available to the policy makers in DHS are partnerships that engages all the stakeholders in order to ensure common missions and shared responsibility in protecting the nation’s critical infrastructure.
There has been a lot of academic and professional attention on the concept of sharing public and private resources in order to accomplish various services. Common areas for partnerships and privatization include the construction and operation of public infrastructure (water systems, energy distribution and generation, etc…), the provision of public services (trash pick up, park maintenance, etc…), and the improvement of previous public monopolies (the post office, AMTRAK, etc…). Privatization has been an effective tool in many of these areas in order to reduce costs, increase efficiency, share resources and streamline government programs. However, in the area of emergency preparedness and response, very little academic attention has been focused on how the public and private sector can better partner together to provide essential services. Therefore, the motivation for this research sprung from (1) the need for better partnerships between the public and private sector in providing EPER services and (2) the dearth of privatization literature that addresses how EPER partnerships should be structured.

1.3 Structure of Thesis

This structure of this thesis is illustrated by figure 1.1. During the ‘preliminary framing’ cycle, a literature review was performed that helped to refine the research questions and the research method used to answer those questions. The method and questions evolved until testable and unanswered questions in the area of EPER privatization were discovered. The ‘preliminary framing’ cycle is described in chapter 2-4 of this thesis according to figure 1.1. Once the method—a case study approach through interviews with existing or current partnerships for EPER—was defined, the interview instrument was developed, partnerships identified, and representatives from those partnerships interviewed over a four month period. This ‘Data gathering’ process is described in chapter 4. Finally, once all the data gathered through the case studies was coded, an analysis of that data was conducted in order to identify patterns and trends that would relate attributes to one another. These relationships were then
interpreted for the use of partnership architects and policy makers in order to ease their decision making. Chapters 5 and 6 address this ‘analysis and conclusions’ block.

FIGURE 1.1: Research Structure
In summary, chapter 1 of this thesis serves as a general introduction to the research questions being answered in this thesis and the motivation for doing so. Chapter 2 surveys the privatization literature for general information about partnerships in order to begin to understand their characteristics, or attributes. Chapter 3 is also a literature review, but for the topic of emergency management. This chapter intends to describe the environment that partnerships for EPER operate within. Contained within chapter 3 is also a survey of the limited literature that has been written on the topic of using partnerships in the area of emergency preparedness and response. Chapter 4 then describes the research method used to answer the research questions. This chapter describes the development of the interview instrument for the case studies and the attribute categorizations. Chapter 5 presents the case study data and explains the patterns and trends discovered through the attribute analysis. Chapter 6 then presents how those patterns and trends provide lessons for EPER partnership architects and policy makers. Chapter 6 concludes with recommendations for future research on the topic of partnerships for EPER.
CHAPTER 2: Public Private Partnership Literature Review

Privatization theory is a fairly well developed body of knowledge. Many aspects of privatization are well understood amongst academics and practitioners, including the motivations for partnership, the goals of privatization, and the characteristics of partnerships. However, there are still disagreements in terminology and some definitions. Thus, this chapter will review privatization literature in order to highlight these discrepancies, and then clarify what definitions are adopted for the purpose of this thesis.

2.1 Privatization Definitions

When a public good that must be provided has been defined, the Government and private sector face a decision: how should that good or service be provided? Who should deliver the service and who should finance it? How should the relationship be structured between the providers? Should contracts be used? When these questions have been addressed, the arrangement used to provide the good or service can be specified.

The public sector can take on the responsibility themselves, as they do in the most part with national defense and the military. On the other hand, the private sector can also provide a service absent the Government, such as mail delivery. Between these two extremes lies a variety of partnership and privatization options that are available to both sectors as well. In general, if the Government “in whole or in part, aims at shifting the functions and responsibilities from the Government to the private sector” (Republican Task Force on Privatization 46), a privatization process has begun. Privatization can occur in many degrees through many structures or arrangements; many of these privatization structures are well-defined. One structure however, is not as universally defined: Public-Private Partnership (PPP).

The definition of a ‘Public Private Partnership’ is elusive and varies with context. Some privatization scholars refer to PPPs as ‘collaborative governance’ in order to differentiate them from other ways of partnering with the private sector. Donahue and Zeckhauser define collaborative governance as “the pursuit of authoritatively chosen public goals by means that include engaging the efforts of, and sharing discretion with, producers outside the Government.”(Donahue and Zeckhauser 430) According to the authors, this form of partnership is distinguished from other forms of privatization, such
as contracting and volunteerism, because of operational discretion. In pure volunteerism, where the private sector provides a service at their own cost, all discretion lies with the private sector even though the end goal is shared by both the public and private sectors. In contracting, on the other hand, the private sector provides a service that is highly specified and the public sector funds. In this arrangement, all discretion lies with the Government. Collaborative governance (or PPPs) lies in the middle of these two arrangements and thus calls for shared discretion and shared strategic decision making.

The National Council for PPPs (NCPPP) defines a PPP very differently—a testament to its various operational definitions. “A Public-Private Partnership is a contractual agreement between a public agency (federal, state or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.” ("National Council for Public Private Partnerships-Case Studies.") Though this definition hits on many critical reasons for partnering with the private sector in the first place—sharing resources, sharing risk, and spreading out benefits—the NCPPP makes one assertion that is in direct contrast to the Donahue definition: that a PPP requires a contract. The NCPPP uses the term PPP much more broadly than Donahue and as a result illustrates the largest problem with defining a PPP universally: drawing the boundaries of this privatization option. The boundary definition problem has not been resolved in the PPP community (both academically and with practitioners) and thus a common definition for the term has not been universally accepted. Therefore in any privatization conversation it is critical to define what one means by ‘partnership’, and ‘PPP’.

The definition for ‘partnership’ adopted in this thesis is best annunciated by Stratton; “A partnership is a collaboration among business, non-profit organizations, and Government in which risks, resources and skills are shared in projects that benefit each partner as well as the community.”(Osbourne 11). Therefore, a partnership is anything within the privatization spectrum between pure public and pure private provision. Partnership is the general term used for any arrangement where the public and private sectors work together. This thesis adopts the Donahue/Zeckhauser definition for a Public
Private Partnership and acknowledges that ‘PPP’, ‘collaboration’ and ‘collaborative governance’ are all interchangeable for the purpose of this study. Therefore, a PPP is one type of privatization arrangement that is distinct from other arrangements such as contracting and volunteerism.

**FIGURE 2.1: Privatization Definitions**

2.2 History of Privatization

Privatization efforts have had upswings and downswings in both the first and third worlds over the past half-century. Throughout the end of the twentieth century, especially the 1980s, privatization was a popular concept and captured a lot of academic as well as practitioner attention. The popularity of privatization—especially with PPPs for infrastructure development in the third world—caused many hasty partnerships to be established that ultimately failed in the 1990s. Typically these types of partnerships are structured as concession contracts, one privatization arrangement option. Infrastructure development partnerships failed for the following primary reasons: (1) ignoring political constraints when formulating partnerships; (2) underestimating the impact the exchange rate would have on paying back debt to lenders; (3) inadequate effort in building up a regulatory regime to compliment the prices charged for monopoly services; and (4) failing to anticipate opposition that would emerge and ultimately condemn sustainability.(Lee) However, much was learned from these failures and today more intelligent infrastructure partnerships are designed in order to avoid many of those problems.
In addition to infrastructure privatization, partnerships have been utilized in a wide variety of service areas as well. In Indianapolis, privatization has been the solution for a host of services including street maintenance, trash pickup, and wastewater treatment. (Husock) In Buenos Aires, PPPs were utilized in order to improve and maintain deplorable parks. (Scott) British Columbia outsourced some of its revenue management tasks including tax collection. (Varley) Also, many private sector entities have emerged that have tried to create a market for managing public schools. (Dyck and Melito) As illustrated by these examples, privatization can be a solution for a diverse set of services when certain conditions exist. Also, these services can be provided in a variety of different ways. As illustrated in the aforementioned examples, some of those arrangements/structures are: managed competition, outsourcing, private management and PPPs. These structures will be more fully defined in section 2.3.1.

Regardless of the arrangement however, there exist several common motivations for pursuing privatization in the first place. According to Savas, these motivations can be characterized as the forces that have influenced privatization: pragmatism, economics, ideology, commerce, and populism. (Savas 6) Privatization is pragmatic because it often leads to more cost effective public services. It is economic because as affluence increases and people are able to provide for their own needs they become more receptive to privatization and dependence on the Government is reduced. Ideologically, some believe in small Government and that political decisions are inherently less trustworthy than free-market decisions. Commerce also pushes privatization due to the business opportunities that Government spending opens to the economy as state owned enterprises and assets are divested. Finally, the populist force is one of competitive choice. Society should be empowered to define and address common needs, and to establish a sense of community by relying less on distant bureaucratic structures and more on family, neighborhoods, church and ethnic and voluntary associations.

Ultimately, the world has moved towards acceptance of privatization as a means for providing public goods. This is due to (1) the large amount of inefficient services that could be provided more effectively through the private sector and (2) a shifting view of the role of Government. ‘Views have changed on how the Government should handle ‘market failures’. The World Bank concluded that the Government should be a facilitator
and regulator instead of a provider and to rely more on citizens, communities and markets.”(Savas 37) Furthermore, according to Savas, “a more educated, critical, and sophisticated citizenry no longer regards Government actions as synonymous with public interest. It has learned to expect unintended, adverse consequences of attempts at social engineering, and it recognizes the limits in the state’s ability to define—let alone attain—the public good.”(Savas 38) Thus, the world has moved towards partnerships between sectors to provide many of the essential goods and service requires for life and prosperity.

2.3 Motivations for Partnership

In addition to the aforementioned drivers for privatization on the whole, the private sector enjoys several advantages in providing certain services. In general, when partnering with the private sector, the Government is trying to account for some common deficiencies and capitalize on private advantages. According to Donahue, these advantages can be characterized as: resources, information, productivity, and legitimacy. (Donahue and Zeckhauser 17) Osbourne elaborates on why resources and information are important motivations for privatization: “In addition to increasing the scale of available resources, partnership may bring it different types of resources, such as information and expertise not available in an organization. This may include legislative power, land, finance, or knowledge, alternative perspectives on the issues and contacts from local community participants or the private sector.”(Osbourne 20)

Productivity often refers to the effectiveness or efficiency with which a service is provided. The private sector is often argued to be more productive or efficient based on three arguments that Donahue outlines. First, “rationale, technical know-how, proprietary intellectual capital and other potentially transferable capacity” can be provided by the private sector and not the Government. Second, “productivity advantages are not accidental but inherent to the private form of organization”. The profit motive, the absence of procedural boundaries, and “procedural flexibility” enable economies and scale and scope that are not possible through the organization of the public sector. The third argument is based on the high cost of maintaining a Government surge capacity for occasional services as compared to the cost of private use. (Donahue and Zeckhauser 433-34)
Legitimacy is a final, but critical motivation for privatization according to Donahue. In some services, where the private sector is the known expert, the Government may lack the credibility to effectively provide a service. On the other hand, the Government may be seen generally as illegitimate and in that case partnering with the private sector may raise their credibility. However, as Donahue notes, this factor can also reduce legitimacy. Partnerships for certain services—military services for example—can reduce the overall legitimacy of the task being performed. Therefore it is important to understand whether or not a partnership will increase or reduce the legitimacy of a service before formalizing it. (Donahue and Zeckhauser 434-35)

In addition to the motivations identified by Donahue, cost-reduction and risk-sharing are also important drivers for privatization. The public sector provides a multitude of services to the public. Cost-reduction in the provision of any one service—while maintaining quality—enables the Government to focus its scarce resources on other areas that may need more financial support. Even if costs are not reduced through privatization, the private sector is often able to allocate resources more efficiently to obtain higher quality. Savas points out that “because capital budgets and operating budgets are generally arrived at through separate processes in the public sector, the opportunity to make tradeoffs between the two is limited. For example, it is more difficult to coordinate an investment in labor-saving equipment with a reduction in the size of the labor force.”(Savas 78-9) However, the private sector has more flexibility in making the decisions between capital and labor allocation and may be able to achieve higher levels of efficiency at the same cost. Optimally, privatization means higher quality at lower cost to the Government.

Risk-sharing is also an important motivation for partnering with the private sector. The private sector operates much differently than the public sector and monetizes risk in order to determine how much they should charge to bear risks. For large project partnerships, risks include: completion risk (delays, cost overruns, site availability), project performance (sponsor commitment, technology assurance, equipment performance, input availability, management performance, labor performance), market risk (demand potential, payment risk), economic risk (funds availability, interest rate, exchange rate, inflation), political risk, and force majeure.(Admed and Fang 40-1)
However, similar risks also exist in service provision activities: performance risk (labor performance), equity risks, and political risks, among others. By partnering with the private sector, the Government is able to relieve the burden of carrying all of those risks and shed some risks to the private sector who may be more able to bear them more effectively. For example, the private sector is often more apt at bearing some forms of performance risk since their profit is directly tied to specific performance metrics. The degree of risk sharing and how that risk is spread is partially determined by the partnership structure selected.

Many services that are privatized were once provided with a Government monopoly. Therefore according to Savas, “the primary goal of any privatization effort is, or should be, to introduce competition and market forces in the delivery of public services, in the operation of public enterprises, and is the use of public assets… But in the public sector, perversely, we have relied heavily on monopolies to deliver public services and to operate the most important public enterprises, those that supply collective goods.”(Savas 122) Essentially, public monopolies breed the same inefficiency, ineffectiveness and unresponsiveness of private monopolies. “Competition gives consumers choice and reduced their probability to be exploited and victimized.”(Savas 123) Opening up a service to competition also pushes prices down and will often result in a cheaper cost of service for all consumers.

A final motivation for privatization is tying accountability to the service provided. “Whereas a private firm generally prospers by satisfying paying customers, a monopolistic public agency can prosper even if the customers remain unsatisfied. When a private company performs poorly, it tends to go out of business; when a public agency performs poorly, it often gets a bigger budget. Paradoxically, the budget can grow even as customer dissatisfaction grows; in this respect a rising crime rate is good for a police department, a housing shortage is good for a housing agency, and an epidemic is good for a health department.”(Savas 78-9) Partnerships with the private sector enable performance to be rewarded accordingly.

Partnerships are formed to gain resources, productivity, information, and legitimacy as well as to share risks and reduce cost. Performance is often evaluated according to how well partnerships were able to achieve those ends. These are in addition
to the theoretical advantages of a competitively supplied service over one provided by a monopoly. Though the use of partnerships to provide public goods and services has varied over history, the motivations for doing so remain the same.

<table>
<thead>
<tr>
<th>Motivations for and Goals of Privatization:</th>
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<tbody>
<tr>
<td>1. Resources</td>
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<td>2. Information</td>
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<td>3. Productivity</td>
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<tr>
<td>4. Legitimacy</td>
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<tr>
<td>5. Cost-Reduction</td>
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<tr>
<td>6. Risk-Sharing</td>
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<tr>
<td>7. Introduction of Competition</td>
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<td>8. Accountability</td>
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</tbody>
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**FIGURE 2.2: Motivations for and Goals of Privatization**

### 2.4 Opposition Arguments

Despite the motivations for privatization, there are several arguments made against sharing public service provision with the private sector. Some of the arguments that Savas outlines are discussed now (Savas 301-314). The first reason for opposing privatization is a fear of the public sector losing control. Oftentimes this really means loss of patronage, loss of power, and loss of budgetary empire for the Government. According to mayor Goldsmith of Indianapolis, “the truth is that we possess many more tools to control the quality and price of a private contractor or winning public employees than we do for those employees acting in a typical Government bureaucracy. As a result of the bidding procedure, we can impose fines for poor quality or missed deadlines, more easily reward performance, and if necessary simply cancel the contract rather than navigate the excruciating procedures required to fire a civil service employee. In each of our competitive initiatives, the city retained and even enhanced its control over services.”(Savas 301)

A second opposition argument has a nationalist flavor. Often this argument is a last ditch anti-privatization argument to assert that the sale of a state owned enterprise is (1) a national security issue (the fear that important services will be taken over by foreign
companies and dominate developing countries); or (2) ‘giving away the family jewels’ (which are typically performing badly).

A third common argument is that the profit motive of businesses perverts the service provision. Many misunderstand the role of profitability. Since the Government often does not profit from services, many believe that the Government can do it for less cost than the private sector. This is almost always false because the profit-incentive actually motivates the private sector to reduce costs to become more competitive.

Many are also concerned that privatization will encourage the concentration of wealth. The fear is that only the rich will be able to buy shares in private entities and thus the rich will get richer if widespread privatization is permitted. But this can be easily solved by limiting the amount of shares an individual can purchase.

A fifth misunderstanding is that a private monopoly will certainty be exploitative. It is true that the creation of a private monopoly through privatization is a huge concern. If a private natural monopoly is created through privatization, it must be adequately regulated to ensure consumers are not exploited with monopoly prices. If adequate levels of competition can be maintained, they must and should be to eliminate high monopoly rents.

Corruption can run rampant in awarding contracts as well if the processes in not managed transparently. Many fear “crony capitalism” where contracts are be awarded unfairly. The awarding of contracts and franchises can be susceptible to bribes and corruption. All ‘favors’ that politicians could receive for such unfair treatment must be strictly prohibited as well as other broad strategies to reduce corruption.

Also, critics often cite the risk of reducing social justice. Some fear that privatization will badly affect the poor that will have to pay market prices for all the new services. This can be avoided if the Government subsidizes those groups with vouchers, grants and contract services who could not afford to pay full price for the service.

Lastly, a common opposition argument is that the private sector will engage in ‘cream skimming’ to only participate in the profitable opportunities. Savas argues that even if the private sector wants the best opportunities this can still be better to society as a whole if user charges end up being lower with the private firm than the public firm.
Many of these arguments have merit and must be considered when evaluating a privatization plan for a specific good or service. Not all goods or services are apt for privatization due to these concerns. For example, if equity cannot be addressed if a service is privatized, privatization may not be an appropriate way to provide the service. Thus it is important not to look at privatization in a vacuum, but instead to understand the characteristics of the good or service that is being considering for provision though a partnership or full privatization.

Arguments Opposing Privatization:

1. Loss of Public Sector Control
2. Nationalism
3. Minority Domination
4. Profitability Perverts Service Provision
5. Concentration of Wealth
6. Private Monopolies Result in Exploitation
7. Corruption in Awarding Contracts
8. Less Social Justice
9. Cream Skimming

FIGURE 2.3: Opposition Arguments for Privatization

2.5 Spectrum of Privatization Structures

Privatization, or the act of shedding some or all public sector responsibility in good or service provision to the private sector, can look very different on a case-to-case basis. However, these activities tend to resemble one of a discrete list of partnership structures. Savas organized various structures according to a two dimensional producer/arranger matrix. In this framework, structures for partnerships are identified based on who produces the good or service in question and who arranges for that service to be provided (through funding primarily).
<table>
<thead>
<tr>
<th>Producer</th>
<th>Arranger</th>
</tr>
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<tbody>
<tr>
<td>Public</td>
<td>Government Service</td>
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<tr>
<td></td>
<td>Inter-Governmental arrangements</td>
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<tr>
<td>Private</td>
<td>Contracts</td>
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<td></td>
<td>Franchises</td>
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<td>Grants</td>
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<tr>
<td>Public</td>
<td>Government Vending</td>
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<tr>
<td>Private</td>
<td>Free Market</td>
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<td></td>
<td>Voluntary Service</td>
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<td></td>
<td>Self-Service</td>
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<td></td>
<td>Vouchers</td>
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</tbody>
</table>

**TABLE 2.1: Institutional arrangements for Privatization** (Savas 66-90)

These structures are defined by Savas and paraphrased below:

1. **Government Service**: In this structure, the good or service is produced by and funded by the Government. These structures included state owned enterprises and Government departments or corporations (AMTRACK, etc…).

2. **Inter-Governmental Agreements**: One Government agency pays another for a service. For example, often States contract with cities and counties to provide social services. Here, one Government unit is the producer and another is the provider.

3. **Government Vending**: Here, the private sector is the arranger and Government services compete with other private agencies to be the provider.

4. **Contracts**: Here, the private sector produces a good or service that is specified contractually and funded by the public sector. The Government can ‘contract out’ for material goods, output services (refuse collection, ambulance services, etc…) and input services.

5. **Franchises**: These are similar to contracts, but instead of the Government paying the producer for the good or service, the consumer pays the producer for the good or service. Franchises can be exclusive (monopoly producing rights) or non exclusive (like taxi medallions).

6. **Grants**: A grant is a subsidy given by the Government to a private producer in order to encourage the production, and thus consumption, of a particular good or service. Both the Government and the consumer thus pay the producer.
7. **Free Market**: In this case the Government may impose regulations (how often trash has to be collected), but the consumer selects the producer with no Government subsidies.

8. **Voluntary Service**: This structure is often motivated by philanthropy or private gain, but ultimately end up benefiting the public. These organizations, such as 90% of firefighters, donate time and money to distribute public goods.

9. **Self-service**: This involves doing a service yourself, such as home schooling or taking care of elderly parents.

10. **Vouchers**: These are designed to subsidize the consumption of particular goods by a particular group of consumers. Subsidizing the consumer directly enables them to buy from any producer (whereas with grants, consumers will only buy from subsidized producers). The consumer is the only one choosing the producer (in grants both Government and consumer select). Vouchers are better than grants in that they give consumers more choice and encourage consumers to shop around more aggressively among competitors. This can also target the consumers that need the break: the poor.

There are several other structures, not explicitly acknowledged by Savas, highlighted in a 1997 General Accounting Office (GAO) Report on Privatization and on privatization.org’s website—a privatization advocate. These structures include:

11. **Managed Competition**: “Under managed competition, a public-sector agency competes with private-sector firms to provide public-sector functions or services under a controlled or managed process” (Republican Task Force on Privatization 46) with all competitors submitting bids.

12. **User fees**: “User fees require those who use a Government service to pay some or all of the cost of the service rather than having the Government pay for it through revenues generated by taxes.” (Republican Task Force on Privatization 47) Concession contracts can be seen as a user fee arrangement since it is the consumers that pay for the service to be provided by the private contractor (in electricity distribution for example.)

13. **Management Contracts**: “The operation of a facility is contracted out to a private company. Facilities where the management is frequently contracted out include airports, wastewater plants, arenas and convention centers.” (Reason Foundation)
14. **Corporatization:** “Government organizations are reorganized along business lines. Typically they are required to pay taxes, raise capital on the market (with no Government backing—explicit or implicit), and operate according to commercial principles. Government corporations focus on maximizing profits and achieving a favorable return on investment. They are freed from Government procurement, personnel and budget systems.” (Reason Foundation)

There is also a 15th type of partnership: A Public-Private Partnership, also known as collaboration or collaborative governance. This is a unique form of privatization because it is so difficult to classify. PPP’s are often not characterized by properties as rigid as other forms of privatization. In contracting, the Government pays a specific price—specified in the contract—to the private partner for the service. However, in PPPs, financing is often shared between sectors in creative and fluctuating ways.

For example, in New York City PPPs were used to develop and maintain many of the city parks that had fallen into disarray. One such park, Bryant Park, was situated in the middle of one of NYC’s most prominent business centers and was stricken with crime. In order to fund the renovation of this park, both the local Government and businesses came up with creative financing contributions. The city designated the area as a Business Improvement District (BID), thus enabling the city to levy an additional tax on residents that would go towards local redevelopment. Private contributors built a restaurant on site in order to draw local young professionals and additional revenues. The Bryant Park Restoration Corporation solicited millions of dollars of private donations from foundations and individuals. The park’s operation and maintenance was managed by the Corporation, but the ownership ultimately remained with the city. Both the city and private funding sources contributed to the redevelopment of the land, but the yearly operating expenses were almost completely privately financed. The park was completely reinvented and is now no long a center for crime in the city, but one of its’ main social hubs. (Donahue and Rosegrant 12-20) This example illustrates the creative financing options that PPPs must pursue in order to create public value. In many more structured privatization arrangements, the flexibility to use such a diverse set of financial resources would have been much more difficult, if not impossible, to implement. Therefore, it is
also difficult to classify PPPs as one type of financing or another since they are often unconventional.

Since PPPs do not usually utilize contracts, the alignment of goals and the formation of trust is a critical and continuous process. In formal arrangements, goals are aligned and performance determined according to the details specified in the contract; often these arrangements are legal arrangements with real consequences if milestones are not met. Without a contract and legal enforcement mechanisms, other mechanisms become critical to ensure the alignment of goals and success. These mechanisms are harder to pinpoint, but often include: self interest, professional ethics, business relationships and trust. Thus, PPPs have mechanisms that perform similar tasks as a contract; however, these other mechanisms can often evoke more commitment from participants since the stake is more than what is specified in a contract.

Therefore, many partnerships will fall into the PPP category if (1) the partnership does not utilize formal mechanisms; (2) financing is complex and changing; (3) discretion is allocated to all partners; or (4) multiple partners provide different element of the service.

In order to complete the list of structural options available to partnership architects, there are also several types of partnerships that are used exclusively for infrastructure development. However, since this thesis does not focus on infrastructure construction and operation as an emergency preparedness and response service, these structures will not be included in the spectrum. For a table of these types of partnerships, please see Tables A.1 and A.2 in Appendix A.

Thus, the spectrum of privatization options studied in this thesis is represented by Figure 2.4. This spectrum is meant to generally represent the degree of public and private participation in each structure.
As Savas characterized the structures by arranger and producer in Table 2.1, there are several other ways to arrange the privatization structures in a two dimensional space. For example, Donahue characterizes the structures using a two dimensional space that
allows for the degree of shared financing and delivery to be illustrated as well. (Figure 2.5) By looking at partnership structures along axes such as financing source and delivery, characterization of partnership structures is simplified. Other characteristics of partnerships that are important to consider when determining the most appropriate structure of a partnership are discussed in section 2.4.

![Figure 2.5: Donahue’s Selected Privatization Arrangements (Donahue)](image)

### 2.6 Partnership Attributes

As illustrated by Donahue’s framework for classifying privatization structures in section 2.3, there are several characteristics that can reveal important information about the nature of a specific partnership. Many of these characteristics, which will be from here-on referred to as ‘attributes’, are similar to the goals and motivations discussed in section 2.2.

Though his work at Harvard University, Mark Moore has conceptualized partnerships as essentially a public management task and has created a ‘strategic triangle’ to help determine the characteristics of a partnership. Figure 2.6 illustrates the three pillars of this approach: legitimacy and support; operational capacity; and public value.
This chart reveals three primary questions that public managers, and any partnership architect, must ask when creating a partnership:

1. What is the important Public Value that is desired? What is the mission?
2. What sources of legitimacy and support will authorize the organization to take and provide the resources necessary to create public value?
3. What operational capabilities will the organization rely on or will have to develop to deliver the desired result? (Trager)

These are also critical questions to ask of established partnerships in order to understand how they are operating, where their weaknesses are, and how resources provided by each sector may have been misapplied. A few partnership attributes, building off of Moore, are thus: (1) specificity of mission/task/ purpose; (2) contributed resources by each partner; and (3) political support and overall legitimacy of means of providing service.

Savas explicitly outlines the attributes that he finds critical in comparing arrangements for providing services. (Savas 91-104)

1. **Specificity of service**: How specific is the task to be completed? Can it be specified in a contract with performance measures? When quality and scope is critical and can vary, contracting becomes complex.
2. **Availability of Producers:** Competition enhances the privatization process. A competitive bidding process to provide a good or service often results in a lower cost service to consumers. Also, competition acts as quality control since there are many providers and it quality is not adequate, there are many other producers to shift to.

3. **Efficiency and Effectiveness:** These two attributes represent two of three critical metrics for measuring the success of an arrangement (the other being equity). The degree of competition a producer faces will ultimately reflect its efficiency. Government services tend to be unnatural monopolies and thus are susceptible to inefficiencies.

4. **Scale of Service:** The scale (size) of production or a service will affect efficiency. Economies of scale can be achieved in all arrangements, if the arranger permits the producer to adjust its production level in order to produce at an optimal level.

5. **Relating Benefits and Costs:** Efficiency is likely to result when consumers have an incentive to shop for the best quality when they can see the relationship between what they are paying and the benefits they get.

6. **Responsiveness to Consumers:** When consumers are the arrangers, then producers tend to be more responsive to their needs.

7. **Susceptibility to Fraud:** When awarding contracts, grants and vouchers, bribery may be a concern. Not being vulnerable to corruption is an important part of an arrangement.

8. **Economic Equity:** Privatization does not automatically mean that an arrangement where the consumer will be paying for the good will occur. There are many arrangements that can redistribute goods and services without direct cost to the consumer. The market does tend to distribute based on income, but not all arrangements are market based. Vouchers, for example, can be redistributive.

9. **Racial Equity:** It cannot be said that privatization causes minorities to lose jobs because they tend to have a higher proportion employed by the Government than majorities. Often contracting firms hire laid-off Government workers when contracting occurs. The same cannot be said for the equity of services.

10. **Responsiveness to Government Direction:** Government services are no more responsive to Government direction than private services because of the inflexibility of the Government. Often services are provided so badly that the Government gets away with things the private sector never would.
11. **Size of Government**: How many Government employees does it take to administer an agreement and how much Government spending is encouraged by that agreement?

The attributes that Savas has outlined constitute questions that one must ask about the specific service to be provided or public value to be created in order to determine what type of partnership might be the best-suited for that service’s provision. Donahue, expanding on his concept of collaborative governance as a form of partnership, outlines several other dimensions that classify specific partnerships.

1. **Formality**: A collaborative relationship can be institutionalized on a spectrum ranging from formal contracts though informal agreements to tacit understandings.
2. **Duration**: At one extreme are governance arrangements meant to be permanent and at the other hand are ad hoc collaboration that dissolve as a crisis is resolved or a goal achieved.
3. **Focus**: Collaboration can be narrowly structured to meet a single shared challenge, or can be more broadly designed to address a range of concerns common to collaborating parties.
4. **Diversity of Participants**: A minimum level of diversity among participating institutions—at least one public and one private players—is a threshold requirement for collaborative governance.
5. **Stability**: Collaboration will be stable if its members share objectives, and potentially volatile to the extent the members’ norm or interests diverge.
6. **Discretion**: A large share of discretion must rest with a player who is answerable to the public at large and each collaborating party must possess a degree of discretion. If private participants merely carry out Government’s instructions—conveyed through fully specified contracts or other means—the relationship is something other than collaborative governance.” (Donahue and Zeckhauser 38-40)

These dimensions tend to specify ranges of possibilities for the partnerships themselves—not the task at hand. Savas’s attributes, on the other hand, focus on the task, not the partnership. Stephen Osbourne looks at the dimensions of partnerships slightly differently from Donahue. “Each partnership has many dimensions. In order to try to
capture the richness of various forms of partnership this section sets out a range of dimensions to partnerships which can be combined to form a set of characteristics of a partnership. [These dimensions are]:

(a) What a partnership is seeking to do—i.e. its purpose and whether it is strategic or project driven;
(b) Who is involved—i.e. the key actors and the structure of their relationship in the partnership;
(c) When—i.e. the timing or stage of development of the partnership process and changing relationships and activities over time;
(d) Where—i.e. the spatial dimension;
(e) How the activities are carried out, the implementation mechanisms.”
(Osbourne 13)

Of the four frameworks outlined above, Donahue and Osbourne characterize the partnership form, Moore characterizes the creation period of the partnership, and Savas characterizes the task itself. It is important to understand how these concepts overlap in creating a framework to evaluate partnerships. It is the goal of this thesis to characterize current or past partnerships based on a finite list of attributes that can be broken into categories. Thus, the Moore, Donahue, Osbourne, and Savas characterizations of partnerships and the tasks they address will serve as the foundation for the attributes identified in this thesis as relevant. However, this thesis does approach a different problem than typical Government service provision; in providing emergency preparedness and response services, the producers and arrangers face unique challenges. These challenges will be outlined in chapter 3 and the attributes that must be considered for those types of partnerships will also be elaborated on. It is the goal of this chapter to establish those attributes which are traditionally seen as important in privatization arrangements.
This chapter has described the theory for privatization and the opposition to privatization. In discussing the partnership structures that have been utilized in the past, this chapter laid out a menu of partnership structures that architects have to choose from when designing a partnership to provide a service. Chapter 2 has also discussed several identifying characteristics of partnerships that can help in analyzing and designing partnerships. **Figure 2.7** lists the characteristics that will be the basis for determining the attributes of emergency preparedness and response (EPER) partnerships that are deterministic of structure and other design choices. This process will be further discussed in chapter 4. But first, chapter 3 discusses the environment that EPER partnerships operate within by outlining the literature on emergency preparedness and response.

**FIGURE 2.7: Classic Characteristics to Consider when Classifying Partnerships**

<table>
<thead>
<tr>
<th>Classic Characteristics to Consider when Classifying Partnerships:</th>
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<tbody>
<tr>
<td>21. Legitimacy and Support</td>
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<td>22. Mission</td>
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<tr>
<td>23. Operational Capacity</td>
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<tr>
<td>24. Specificity of Service</td>
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<tr>
<td>25. Availability of Producers</td>
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<tr>
<td>26. Efficiency and Effectiveness</td>
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<td>27. Scale of Service</td>
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<td>28. Relating Benefits and Costs</td>
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<td>29. Responsiveness to Consumers</td>
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<tr>
<td>30. Susceptibility to Fraud</td>
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<td>31. Economic Equity</td>
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<td>32. Racial Equity</td>
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<tr>
<td>33. Responsiveness to Government Direction</td>
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<td>35. Formality</td>
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<td>36. Duration</td>
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<td>37. Focus</td>
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<tr>
<td>38. Diversity of Participants</td>
</tr>
<tr>
<td>39. Stability</td>
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<tr>
<td>40. Discretion</td>
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</table>
Works Cited


CHAPTER 3: Emergency Preparedness and Response Literature Review

The notions of emergency preparedness and response (EPER) are almost as difficult to define as Public Private Partnerships (PPPs). Preparedness and Response are functions within the larger task of emergency management. “Emergency Management involves four interrelated actions: mitigation, preparedness, response and recovery. Mitigation focuses on taking action to reduce risk. Preparedness recognizes that while mitigation actions can reduce risk, they do not eliminate the vulnerability to hazards. Preparedness actions seek to establish authorities and responsibilities for emergency actions and to assemble the resources to support these actions. Response involves actions to reduce casualties and save lives, protect property, and restore essential government services once an event has occurred, while recovery encompasses those efforts to restore the social and economic infrastructure and clean up, to the extend possible, the environment of the affects community following the emergency.” (Galloway 27) However, Galloway’s definitions for emergency management functions are not universally accepted and his terminology is not found consistently across emergency management practitioners.

In addition to different emergency management terminologies, preparedness and response are further complicated due to the nature of the event they confront: emergencies. Emergencies are unpredictable, on the most part, and their effects can be negligible or devastating. They can be man-made or natural and can affect people and infrastructure. Essentially, one characteristic of emergencies is the vast amount of uncertainty they are fraught with. Regardless of the damage encountered during or after an emergency, some response capacity is required to build back up what was damaged. Accordingly, in order to for those response efforts to be optimal, communities must also be prepared and even take steps to reduce risk. However, what is included within the preparedness and response boundaries is not completely clear. Are prevention and mitigation functions of preparedness or separate activities? Are preparedness and response similar activities or are their sub-functions completely distinct? These and other questions will be addressed in Chapters 3 and 4 of this thesis. It is the intent of Chapter 3 to outline the relevant EPER definitions and to illustrate the current state of EPER provision in the United States.
3.1 Definitions of Preparedness and Response

There exists inconsistency in many of the definitions used by the government and practitioners for the terms ‘preparedness and response’. This section will describe the operational definitions that various emergency managers have adopted in order to define the terms for this thesis.

3.1.1 Government Definitions


(A) **Mitigation**: taking sustained actions to reduce or eliminate long-term risk to people and property from hazards and their effects;

(B) **Planning**: building the emergency management profession to prepare effectively for, mitigate against, respond to, and recover from any hazard;

(C) **Response**: conducting emergency operations to save lives and property through positioning emergency equipment and supplies, through evacuating potential victims, through providing food, water, shelter, and medical care to those in need, and through restoring critical public services;

(D) **Recovery**: rebuilding communities so individuals, businesses, and governments can function on their own, return to normal life, and protect against future hazards; and

(E) **Increased Efficiencies**: coordinating efforts relating to mitigation, planning, response, and recovery.” (Armey Section 507)

Thus, this statute upholds mitigation, planning, response and recovery as the four main functions of emergency management.


**Prevention**: “Actions taken to avoid an incident or to intervene to stop an incident from occurring. Prevention involves actions taken to protect lives and
property. It involves applying intelligence and other information to a range of activities that may include such countermeasures as deterrence operations; heightened inspections; improved surveillance and security operations; investigations to determine the full nature and source of the threat; public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and, as appropriate, specific law enforcement operations aimed at deterring, preempting, interdicting, or disrupting illegal activity and apprehending potential perpetrators and bringing them to justice.” (Department of Homeland Security 71)

**Preparedness:** “The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the operational capability to prevent, protect against, respond to, and recover from domestic incidents. Preparedness is a continuous process involving efforts at all levels of government and between government and private-sector and nongovernmental organizations to identify threats, determine vulnerabilities, and identify required resources.” (Department of Homeland Security 71)

**Response:** “Activities that address the short-term, direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans and of incident mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes. As indicated by the situation, response activities include: applying intelligence and other information to lessen the effects or consequences of an incident; increased security operations; continuing investigations into the nature and source of the threat; ongoing public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and specific law enforcement operations aimed at preempting, interdicting, or disrupting illegal activity, and apprehending actual perpetrators and bringing them to justice.” (Department of Homeland Security 72)

**Recovery:** “The development, coordination, and execution of service- and site-restoration plans for impacted communities and the reconstitution of
government operations and services through individual, private-sector, nongovernmental, and public assistance programs that: identify needs and define resources; provide housing and promote restoration; address long-term care and treatment of affected persons; implement additional measures for community restoration; incorporate mitigation measures and techniques, as feasible; evaluate the incident to identify lessons learned; and develop initiatives to mitigate the effects of future incidents.” (Department of Homeland Security 71-72)

Before highlighting the important differences between these two sets of definitions, a third concept will be discussed surrounding the term ‘preparedness’. Preparedness can be thought of in three distinct ways.

(1) Protection/Deterrence/Prevention
(2) Resilience/Mitigation
(3) ‘Emergency Preparedness’ (Cohn)

According to Alan Cohn, a director in DHS Policy, ‘Emergency Preparedness’ can be distinguished from these other views because inherent in ‘Emergency Preparedness’ is the knowledge that a response will be necessary. A protection/deterrence/prevention mindset solely focuses on the elimination of a threat. Resilience/mitigation focuses on the reduction of a threat. In ‘emergency preparedness’ it is not a question of if a threat will manifest itself, but when. One service of ‘emergency preparedness’ is thus building the capacity to respond when one is forced to do so.

These are important distinctions because depending on the view espoused by an individual, the relationship between emergency preparedness and response will differ. In the first two views, preparedness is completely distinct from response and therefore their functions can be completely separated. This will manifest itself with separate agencies responsible for those functions and little communication. These views of preparedness make life very difficult for emergency managers however. If a threat is identified, prevention activities become the focus while response actions take a backseat. However, preparedness and response need not be seen as a zero-sum game, where a budgetary gain for one is necessarily a budgetary loss for the other. If the last view—‘emergency preparedness’—is adopted, then preparedness and response are intrinsically linked and
their functions will be performed in a more complimentary manner. In this case, preparedness activities include mitigation and prevention activities, but the most critical activity is the building of capacity for response. Therefore, in this paradigm, all of the functions of emergency management can work together much easier than if a preparedness paradigm of solely ‘prevention’ or ‘mitigation’ is adopted.

3.1.2 Thesis Definitions

Building off the government definitions and acknowledging the complexities in distinguishing preparedness activities and response functions, the definitions of emergency preparedness and emergency response for the purpose of this thesis are:

**Emergency Preparedness** (EP) involves prioritizing the allocation of fixed resources in order to eliminate and/or reduce vulnerabilities and manage risk. This ‘service’ involves a continuous investment in preparing for unknown scenarios with varying degrees of impact severity in order to build the capacity for an effective response.

**Emergency Response** (ER) involves the effectiveness and efficiency with which the government and its citizens are able to react to and recover from an emergency or disruption. ER is a reflection of the logistics capabilities of an organization to deal with damage resulting from any number of disruptions. This service is fraught with need for highly resilient and adaptable systems that deal with a wide-variety of situations.

Thus EP and ER can be seen as two distinct, yet related, services that every government must ensure is provided in order to advance the safety and security of its citizens. How these services are provided—completely through the public sector, completely through the private sector, or through mixed arrangements—is the subject matter for this thesis.

In order to determine how these services should be provided, it is important to understand the responsibilities of both sectors. The definitions outlined previously in the National Response Plan reveal how the government allocates responsibility. Prevention is seen as a public responsibility and should therefore be provided by the government. On the other hand, recovery is seen as a private responsibility by DHS and thus should be provided primarily by the private sector. Preparedness and response seem to lie in the middle of these two extremes. (see definitions in section 3.1.1.1) The responsibility lies on both sectors and thus the provision should be mixed. Thus, according to the DHS
definitions, Preparedness and Response activities are ripe for Partnerships. **Figure 3.1** illustrates this responsibility spectrum. This figure also illustrates the relationship between the DHS definitions (National Response Plan), the Congressional Definitions (Homeland Security Act), and the definitions for the purpose of this thesis.

**FIGURE 3.1: Responsibilities in Preparedness and Response**

### 3.2 What Constitutes an Emergency?

In order to truly understand the complexities of EP and ER, it is important to understand the nature of the emergencies that these services confront. The Stafford Act, passed in 2000, defines an emergency as: “any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.” (Fowler) According to this definition, there are both preparedness and response activities associated with an emergency. The preparedness functions would include “lessen[ing] or avert[ing] the threat of a catastrophe in any part of the United States”. The response function is to provide “Federal assistance…to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety”.

This general definition does not put any boundaries around what constitutes an emergency other than its scope overwhelming local resources and requiring government intervention. For the purpose of this thesis, an emergency will include all events within the scope of the Stafford definition as well as those that can be managed on a local level. Many local events may not be of the magnitude of others that require extensive intervention (such as Hurricane Katrina or 9/11), but they can still be considered events
that require a response. An example of a local emergency that would not require federal intervention but does require local coordination would be a severe thunderstorm that downs many power lines. Those power lines must quickly be restored but the federal government is not involved in that response activity. That event will be considered an emergency at a local level.

3.2.1 Types of Emergencies

The Stafford Act also illuminates many of the emergencies that the nation faces through its definition of a major disaster. A major disaster is “any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.” (Fowler) The main categories of emergencies are thus: natural disasters, intentional man-made, and accidental. Natural disasters can include any of the aforementioned events. Man-made events can either be the result of crime or terrorism. These events can be floods, fires, Biological or Chemical weapons attacks, radiological or nuclear weapons attacks, or other explosions. Accidental events can also resemble the effects of an intentional man-made event. Regardless of the cause of an emergency however, if it is severe enough, the Stafford Act requires that the government be capable of responding to that event.

There are some notable differences however between those three types of emergencies. According the Stephen Flynn, “while people know that their government can’t prevent natural disasters, they do expect their officials to be vigilant in preventing our enemies from killing innocent civilians, toppling our landmarks, and destroying non-military property.” (Flynn 9-10) It is thus an issue of public expectations. Natural Disasters are somewhat predictable but cannot be mitigated by any government efforts. There is no mechanism for stopping or deflecting a hurricane once it has developed and is heading towards Florida. On the other hand, terrorism is much harder to predict but is viewed by the public as preventable. Even though the intelligence community and
security experts will elaborate on the many difficulties the government faces in preventing terrorism (including a flawed intelligence network), the public tends to see this activity within the realm of controllability for the government. Thus, they expect an active campaign to prevent and mitigate that source of threats.

Thus, these two sources of emergencies, terrorism and natural, should be dealt with differently when developing preparedness plans. Intelligence is critical in preparedness activities for man-made disasters. On the other hand, weather tracking centers are the most critical source of information for natural disasters. When facing a natural disaster, often evacuations are the most often utilized preparedness measure. For terrorism, prevention at any cost is touted as the philosophy. For all preparedness activities, there is one very important common characteristic however: uncertainty. There is a vast amount of uncertainty involved in both of these sources for emergencies. This uncertainty can be related to the time and location of an attack, or the severity of an event. Due to this uncertainty, Flynn acknowledges one strategy: “Our goal should not be to find fool-proof solutions for protecting targets terrorists are most likely to strike. It is about identifying workable measures that are cost-effective and not disruptive. Then we need to string them together in such a way that each serves to reinforce the deterrent value of the other.” (Flynn 70) Handling emergencies are thus about managing risk and uncertainty.

There are distinctions in preparedness activities based on the source of the emergency, but response does not discriminate. Once an event has occurred, regardless of the cause, many response activities will look the same. Therefore, one key difference between preparedness and response is that preparedness activities depend on the emergency’s source where response is independent of the source of the emergency. Terrorism and natural disasters will continue to happen and we can not prevent all of these events from occurring. Therefore, despite the differences in managing these sources of emergencies, they must be managed as optimally as possible. Partnerships between the public and private sector may optimize several of the services required to provide effective emergency management.

3.3 Previous Research on Public Private Partnerships as a Means for Providing Emergency Preparedness and Response Services
Several documents have been published recently that look specifically at the problem of using PPPs to supply EPER services. The following documents constitute the academic research that has been performed in this general subject area. However, none of these reports strive to answer the same questions as this thesis: (1) what characteristics of EPER services can inform decisions about designing partnerships to provide those services and (2) what lessons can architects and policy makers learn, from existing EPER partnerships, which can guide future partnership architectures? Summaries of the findings and research methods of the flowing relevant studies are listed below.

In a report published by the Council on Foreign Relations, Stephen Flynn and Daniel Preito evaluate the current state of partnerships with the private sector for emergency preparedness and response. Flynn and Prieto conclude that the federal government is currently taking too passive a role in engaging the private sector in many areas of EPER—most notably critical infrastructure—and that in order to more effectively prepare the country, the government must create better private incentives for partnership. They note that market incentives are not strong enough for the private sector to go it alone in preparedness and response investments. This report is primarily a call for government action to reform its partnership paradigm by encouraging action in the following areas: (1) changing the view that the private sector should take care of themselves; (2) creating a national list of priorities for critical infrastructure to guide partnership priorities; (3) improve information sharing between the sectors; (4) codify security standards that would enable EPER regulatory powers; and (5) create incentives such as tax breaks and federal liability protections that will motivate the private sector to increase investments. (Flynn, Stephen E. Prieto, Daniel B. 4)

In a statement before the Little Hoover Commission, Rich Cooper, the Business Liaison Director of the Private Sector Office within DHS, elaborates on the potential for PPPs for EPER services in the United States. Noting that PPPs have evolved in four primary homeland security areas—regional security partnerships, event/circumstance support, commerce development and sharing, and information sharing (Cooper 4)—Cooper expands on several examples of partnerships for EPER while stressing the expanded responsibility of the private sector in these efforts post-9/11. “With the advent of 24-7 news cycles, the Internet, the lightening speed of business in a global economy
and increased ownership by the private sector of critical infrastructure, the private sector is not longer just an observer as emergency vehicles respond to an incident…The public and private sectors, which once occupied completely separate and independent islands of responsibility, are now finding the need to have multilane bridges to connect one another in order to do business.” (Cooper 2) In addition to elaborating on the necessity for partnership, Cooper also outlines—through his experience—the challenges that PPPs for EPER and face: funding, leadership and control, maintaining energy, cultural/situational awareness, information sharing, liability, measuring results, flexibility, managing expectations and standing fast/leading by example. (Cooper 10-11) In conclusion, Cooper emphasizes the role of both planned partnerships—not merely ad-hoc collaborations—and voluntary security standards. Essentially, this statement stresses the importance of public private collaboration and provides some lessons learned from previous attempts at partnership.

In a chapter of the edited book “Seeds of Disaster, Roots of Response: How Private Action can Reduce Public Vulnerability”, John Donahue of Harvard’s Kennedy School of Government comments on the use of public private collaboration of infrastructure security. This piece has three primary goals: (1) to discuss the rising importance of or private involvement in public missions; (2) to describe the importance of shared discretion in collaborative governance arrangements; and (3) to illustrate the challenges that collaborative governance poses as a structure for providing critical infrastructure protection. Donahue importantly notes that efficiency gains alone are not a sufficient reason to pursue collaborative governance since often “the government can harness private efficiency advantages, while avoiding the complexities of shared discretion, through simple procurement contracts.” This emphasizes that there are a range of partnership options available to the government and that PPPs, or collaborative governance, may not always be the right choice. This is a critical observation since much of this piece focuses on the need for the government to acknowledge discretion tradeoffs in order to select the most appropriate structure for partnership. There are several risks that accompany collaborative governance arrangements however: “Despite differing interests on the allocation of cost, and the details of security arrangements, the basic goal of reducing expected terrorist losses is shared by government, private sectors owners, and
security owners…. [Thus], infrastructure security poses fewer problems of conflicting preferences among collaborating parties than do some other arena for public-private collaboration.” (Donahue and Zeckhauser 446-7) In conclusion, Donahue outlines several steps that the government should take when determining whether a specific infrastructure security effort is suitable for collaborative governance.

In January of 2007, the Business Executives for National Security (BENS) published a report that found flaws with the nation’s public-private collaboration, surge capacity and supply chain management, and the legal and regulatory environment. The PPP findings are particularly relevant to this thesis: “The American private sector must be systematically integrated into the nation’s response to disasters, natural and man-made alike. Government alone cannot manage major crises nor effectively integrate the private sector after a crisis occurs. The Task Force believes that building public-private collaborative partnerships, starting at the state level, is of the most important steps that can be taken now to prepare the nation for future contingencies. Unfortunately, with few exceptions, collaborative relationships do not today exist.” (Business Response Task Force 4). This conclusion was a result of one hundred interviews performed with private sector representatives that focused on the current state of response capabilities in the United States. From these interviews, the task force identified themes that became the basis for their recommendations for how to improve the current system of engaging the private sector. This study sought to answer the following questions: (1) “how can business become better integrated structurally into the disaster response effort and ; (2) what mechanisms can improve how business and government communicate and coordinate decision-making before, during and after a crisis, at all levels of government?” (Business Response Task Force 11) Thus, this report focuses on mechanisms for better integration and primarily recommends that BOCs (Business Operations Centers) are established to compliment the current EOCs (Emergency Operations Centers) that the government coordinates.

Essentially, Flynn and Prieto’s recommendations are intended to guide the government in creating a more welcoming environment for private participation in EPER services. Cooper stresses the reasons for private participation as well as lessons learned from practical experience with attempting to implement successful partnerships. Donahue
describes the problems with an advantages of a specific type of partnership—collaborative governance—for a specific functional area—critical infrastructure—while making general comments about the need for private participation. Finally, the BENS learned from private security professionals in order to pinpoint flaws in the current EPER system and make recommendations about how to improve the system to be more welcoming for the private sector.

The method for this thesis is described in Chapter 4. In short, interviews were performed with representatives from examples of Partnerships for EPER. These interviews specified the identifying characteristics (attributes) of the partnerships. Then, those attributes were used to make general observations about which attributes affect the structural characteristics of the partnership. Should the task be provided through a contract, collaboration, or purely through the government? Can that be determined by looking at the attributes of the task to be provided? Those are the questions that this thesis seeks to address. Thus, the questions and findings of this thesis are related, but distinct from other studies that have recently been performed in this field.
Works Cited


CHAPTER 4: Bridging the Gap: Research Design

Ultimately, this research strives to create a prescriptive framework to advise emergency preparedness and response (EPER) partnership architects how to structure their partnership based on the attributes of the service they are trying to provide. Therefore, the primary audience for this research is partnership architects—both in the public and private sector. In order to meet this objective, the following two research questions are addressed:

1. What characteristics of EPER services can inform decisions about designing partnerships to provide those services?
2. What lessons can architects and policy makers learn, from existing EPER partnerships, which can guide future partnership architectures?

By looking at three sets of attributes—Structural, Event and Functional—this research will provide insight on how, based on those attributes, partnerships can be best structured. Figure 4.1 illustrates the inputs to and the outputs of the research method. These insights will be sought through a case study method. However, in order to understand the research instrument—the interview—and the attributes selected as inputs and outputs to the framework, some background is required. Section 4.2 will address the method for selecting the attributes used in this research. Section 4.3 will discuss the interview instrument and Section 4.4 will address the evolution of the instrument and attributes over the course of the study.

![Figure 4.1: Research Method Framework](image-url)
4.1 Determining the Functions of Emergency Preparedness and Response

As discussed in chapter 2, the traditional attributes for categorizing partnerships is well developed. Figure 2.5 lists those classic characteristics to consider when classifying partnerships and refers to them as ‘privatization attributes’. However, not all of those classic ‘privatization attributes’ are relevant for emergency preparedness and response activities. Section 4.2.4 will acknowledge those classic privatization attributes that are important for EPER services. It is important to note that initially in this research the attributes were not classified as ‘structural, functional and event’ as described by Figure 4.1; instead, the attributes were characterized as ‘privatization’ and ‘EPER’ following naturally from the literature reviews. As those attributes became better understood over the course of the research, they were reclassified as functional, structural and event. Thus for the beginning sections of this research methodology chapter, the attributes will be described as ‘privatization’ or ‘event’ and the evolution of those attributes to ‘functional’, ‘structural’ and ‘event’ will be described near the end of the chapter.

As discussed, the initial set of ‘privatization attributes’ was developed through the literature review and displayed in Figure 2.7. More difficult than selecting the ‘privatization attributes’ however, is the development of the ‘EPER attributes’: characteristics that are distinctive solely because these functions are based on service delivery surrounding an emergency. The emergency situations that are faced in EPER services pose interesting attributes that may alter how a service should be provided. In order to determine the attributes that are appropriate for Partnerships for EPER services, an attribute assessment was performed. This assessment is discussed in section 4.2.1.

4.1.1 Attribute Assessment: Determining Attributes from EPER Functions

In chapter 3, the stages of emergency preparedness and response were discussed. Figure 3.1 summarizes those stages as defined by several parties. In order to best understand the actual services that are performed within these stages, these stages were broken down into 9 sub-functions.

1. Determination of Vulnerabilities
2. Identify Threats
3. Assess Vulnerabilities/Threats
4. Provision of Required Resources/Activities/Planning for Mitigation
The first five sub-functions are in the emergency preparedness phase. Sub-functions 6 through 8 are in the response phase and sub-function 9 is in the recovery phase. These sub-functions were primarily derived from the NRP definitions for the phases of emergency management.

For each of these sub-functions, the responsibilities of both the public and private sector and examples of activities within the sub-functions were explored. For example, for the sub-function “Provision of Required Resources/Activities/Planning for Mitigation”, the following were some of the roles and responsibilities determined for each sector.

1. Private Sector Roles and Responsibilities:
   a. must create contingency plans that are well communicated to all stakeholders
   b. must ensure the safety of employees in order to return to business as usual as quickly as possible
   c. must establish clear communication channels/hierarchy in the event of an emergency
   d. must work with the government and other private partners to rehearse plans

2. Public Sector Roles and Responsibilities:
   a. must develop emergency response plans that are distributed to and agreed upon by all stakeholders
   b. must effectively communicate updated intelligence to the private sector to modify SOPs/emergency plans
   c. must establish clear communication channels/hierarchy in the event of an emergency
   d. must develop plans to ensure the viability, integrity and capability of critical distribution systems
   e. must encourage the creation of a flexible and resilient culture with stakeholders (development of robust organization structures, communication networks, supply chains, etc…) by providing incentives to the private sector
   f. must work with levels of government and private partners to rehearse plans
Building on these roles on responsibilities, specific activities in this sub-function were then explored. Three examples of activities that were explored for “Provision of Required Resources/Activities/Planning for Mitigation” were (1) the creation of SOPs, contingency plans, and chains of command; (2) the rehearsal of plans; and (3) the education of employees and residents. These activities are still somewhat large however and can be broken down further into manageable chunks that are allocated to those responsible. For example, with the creation of SOPs and contingency plans there are several types of plans that must be developed, including: water provision plan, transportation plan, housing and shelters, emergency search and rescue, triage, and communications restoration. These plans can and should be integrated especially when compounding effects cause multiple critical resources to be jeopardized.

The attribute assessment was then based on extracting defining characteristics from the example activities. What were characteristics of the activities within this sub-function that could be determinative of the most appropriate structure for their provision? Working backwards from the example activities within the “Provision of Required Resources/Activities/Planning for Mitigation” sub-function, the following attributes were found to be important: Diversity (Range) of Stakeholders/ Responsible Parties; Number of Stakeholders/ Participants; Scope of Beneficiary; Investment Required to Provide Service; Level of Coordination Between Partners Required; Frequency of Interaction Between Partners; Duration of Interaction to Provide Service and; Level of Sensitivity of Information Shared between Partners.

This method was then repeated for all of the sub-functions and the following list of attributes was generated. For the complete attribute assessment see Appendix B.
FIGURE 4.2: Attributes Derived from EPER Functions

This list represents all of the attributes that characterize partnerships for EPER and thus include some attributes that describe the partnership itself and some new attributes that describe the emergency environment. Thus, the attributes in Figure 4.2 were further categorized as Privatization or EPER attributes. Attributes 1 through 15 are privatization attributes—characteristics of the function or the partnership themselves. Attributes 16 through 22 are EPER attributes—characteristics of the emergency situation that the function confronts. These attributes that were derived from the attribute assessment were then combined with some of the traditional privatization attributes discussed in chapter 2 in order to determine the privatization and EPER attributes used for this study.

4.1.2 Important Attributes for Partnerships in EPER

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<thead>
<tr>
<th></th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Diversity (Range) of stakeholders who have incentives to participate</td>
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<td>2.</td>
<td>Scope of Beneficiary</td>
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<td>3.</td>
<td>Number of Actual Partners</td>
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<td>4.</td>
<td>Duration of Interaction</td>
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<td>5.</td>
<td>Level of coordination required</td>
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<td>6.</td>
<td>Frequency of Interaction</td>
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<td>7.</td>
<td>Level of sensitivity of information required/shared</td>
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<td>8.</td>
<td>Sector expertise</td>
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<td>9.</td>
<td>Ownership and Responsibility of task/asset</td>
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<td>10.</td>
<td>Complexity/ Specificity of task</td>
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<td>11.</td>
<td>Motivation for Partnership</td>
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<td>12.</td>
<td>Catalyst for Partnership</td>
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<td>13.</td>
<td>Leadership Structure of Partnership</td>
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<td>14.</td>
<td>Political Environment</td>
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<td>15.</td>
<td>Risk Profile</td>
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<td>16.</td>
<td>Activation Period of Partnership (based on Emergency)</td>
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<td>17.</td>
<td>Type of emergency confronted</td>
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<td>18.</td>
<td>Geographic Scope of Anticipated Emergency</td>
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<td>19.</td>
<td>Duration of Event</td>
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<td>20.</td>
<td>Anticipated Nature of Consequence</td>
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<td>21.</td>
<td>Severity</td>
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<tr>
<td>22.</td>
<td>Degree of Uncertainty in Task</td>
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Figure 2.7 lists the traditional privatization attributes used to characterize partnerships.

Classic Characteristics (Traditional Privatization Attributes) to Consider when Classifying Partnerships:

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<tr>
<td>1.</td>
<td>Legitimacy and Support</td>
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<td>Mission</td>
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<td>3.</td>
<td>Operational Capacity</td>
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<td>4.</td>
<td>Specificity of Service</td>
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<td>5.</td>
<td>Availability of Producers</td>
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<td>6.</td>
<td>Efficiency and Effectiveness</td>
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<td>7.</td>
<td>Scale of Service</td>
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<td>8.</td>
<td>Relating Benefits and Costs</td>
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<td>9.</td>
<td>Responsiveness to Consumers</td>
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<td>10.</td>
<td>Susceptibility to Fraud</td>
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<td>11.</td>
<td>Economic Equity</td>
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<td>12.</td>
<td>Racial Equity</td>
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<td>13.</td>
<td>Responsiveness to Government Direction</td>
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<td>14.</td>
<td>Size of Government</td>
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<td>15.</td>
<td>Formality</td>
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<td>16.</td>
<td>Duration</td>
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<td>17.</td>
<td>Focus</td>
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<td>18.</td>
<td>Diversity of Participants</td>
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<td>19.</td>
<td>Stability</td>
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<td>20.</td>
<td>Discretion</td>
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</table>

**FIGURE 2.7: Traditional Privatization Attributes**

When combined with the attributes derived from the attribute assessment discussed in section 4.2.1, these classic privatization attributes complete the attributes used as inputs to the research framework for this research. Not all of the classic privatization attributes listed in figure 2.7 are appropriate for classifying EPER services however. Furthermore, some of the classic privatization attributes are captured within the attributes derived from the assessment. There are a few shared attributes between the classic attributes and the desired attributes: Duration, Diversity of Participants, and Specificity of Service. Operational Capacity was not addressed in the attribute assessment, but is important for any partnership and is therefore included in the final attribute list. Other attributes that were not derived through the assessment, but are
important enough to include in the final list are: financing capacity, scale of service, formality, and discretion.

‘Legitimacy and support’ are captured within the ‘sector expertise’ and ‘political environment’ derived attributes. The ‘legitimacy’ of a function is dependent on which partner is the expert in that service provision. ‘Support’ is captured by the political environment that a function exists within; if public or political support is absent or volatile, it will be captured in the political environment attribute. Also a concern in many partnerships is an arrangement’s ‘Susceptibility to Fraud’; it is important to maintain legitimacy through openness and trust. This is captured through the ‘political environment’ attribute.

‘Mission’ is important in the classical attributes in determining both the ‘specificity of service’ and the ‘focus’ of the function. It is important for ‘stability’ to have every partner’s ‘mission’ aligned. Thus, the indicatives attributes that encompass these attributes in the final list are ‘specificity of service’ and ‘alignment of missions’.

Several others of the classical attributes relate to how well a consumer is able to interface with the provider of the service. For EPER services, there is not much consumer behavior; these are services that are provided in order to protect the population or restore life after a disruptive event. Consumer choice in many of these services is therefore not relevant since those are not the dynamics that influence provision. Thus, the classical attributes ‘Relating Benefits and Costs’ and ‘Responsiveness to Consumers’ are not included in the final list.

Competition is typically seen as necessary in order for the benefits of privatization to be fully realized. However, in most areas of EPER service provision, competitive momentum has not yet gathered. Thus, the ‘Availability of Producers’ is not considered either. However, this would be an interesting attribute to consider when a market for EPER services has grown. Also, though the ‘Size of Government’ is an important theological attribute for considering when to privatize, this attribute is too vague to be considering in this research as a direct variable for partnership structure. Similarly, ‘Responsiveness to Government Direction’ is excluded as well.

‘Economic Equity’ and ‘Racial Equity’ are huge concerns when designing partnerships to provide public goods. For EPER services, providing to all races and
economic strata is critical. However, these are attributes to consider in the design phase of a partnership and not necessarily in the selection of the most appropriate structure. Thus, these equity attributes are not included in the final list.

Finally, the ‘Efficiency and Effectiveness’ with which a service is provided will be extremely important in the sustainability and benefit of the partnership. However, this attribute stands alone from the others. The other attributes mentioned thus far may be predictive variables for the most appropriate partnership structure for providing an EPER function—the main research question for this thesis. However, the efficiency with which a service is provided is almost a separate question. Also, since the nature of these EPER services is to increase overall security, there will inevitably be some efficiency-security tradeoffs. Deborah Stone, lays out some of these tradeoffs: (1) People are not motivated to work when they are secure, so productivity declines with increased security; (2) the more security society provides, the bigger its service sector. The service sector has the lowest rate of productivity in the economy; and (3) Economic efficiency requires technological changes and innovations that necessarily make some people worse off (and insecure.” (Stone 107) This stone definition of security refers to individual security and well being; this security definition is especially relevant to response activities where the victims are often individuals who have been stripped of the homes and resources. It is these individuals security that are addressed through emergency response partnerships. Therefore, though efficiency is a desired outcome of a partnership, it is not the goal of partnerships for EPER, security is. It is important to note that partnerships may tend to make the provision of these activities marginally more efficient than either sector producing them alone; however, efficiency is not an attribute and may not even be a required outcome.

In addition to this tradeoff that is inherent in the services that this thesis addresses, there are also different types of inefficiency that must be avoided: allocative inefficiency and x-efficiency. According to Leibenstein, allocative inefficiency occurs when resources are not distributed correctly to a task. This is thought of as traditional economic inefficiency. On the other hand, x-inefficiency occurs when resources are not used as productively as they could be; the mix of resources may be optimal, but they are not being utilized productively. (Leibenstein 392-415) Therefore, in any partnership
arrangement, architects are looking to reduce both types of inefficiency. However, picking a partnership structure based on the inefficiencies is difficult. The scope of a service can be selected based on efficiency concerns and economies of scale. Incentives will be developed if x-inefficiencies exist. But for the purpose of this research, the success and efficiency with which an EPER function is provided is not addressed. Since partnerships for these services are still so new, the focus of this research is on how to structure partnerships for these services. This thesis does not directly, in the framework, address the success of those partnerships. This is an interesting question for future research however when better metrics for success in this area are understood, and there is a more developed portfolio of successful partnerships for EPER. Therefore, ‘efficiency and effectiveness’ are not included in the final list of attributes, mostly because these attributes are so difficult to measure.

**Figure 4.3** lists the complete set of attributes considered in this research. Ultimately the goal is to map these attributes to the most appropriate partnership structure for various EPER service provision.

<table>
<thead>
<tr>
<th>Privatization Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalyst</td>
</tr>
<tr>
<td># of Stakeholders</td>
</tr>
<tr>
<td># of Partners</td>
</tr>
<tr>
<td># of Beneficiaries</td>
</tr>
<tr>
<td>Specificity of Task/ Focus</td>
</tr>
<tr>
<td>Scale of Service</td>
</tr>
<tr>
<td>Frequency of Interaction</td>
</tr>
<tr>
<td>Authority/ Credibility</td>
</tr>
<tr>
<td>Responsibility</td>
</tr>
<tr>
<td>Financing Capacity</td>
</tr>
<tr>
<td>Operational Capacity</td>
</tr>
<tr>
<td>Sector Expertise</td>
</tr>
<tr>
<td>Motivation</td>
</tr>
<tr>
<td>Leadership Structure</td>
</tr>
<tr>
<td>Existence of Contract</td>
</tr>
<tr>
<td>Sensitivity of Information</td>
</tr>
<tr>
<td>Degree of Risk</td>
</tr>
<tr>
<td>Political Concerns</td>
</tr>
<tr>
<td>Duration of Service</td>
</tr>
<tr>
<td>Discretion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EPER Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Emergency Confronted</td>
</tr>
<tr>
<td>Geographic Scale of emergency</td>
</tr>
<tr>
<td>Severity</td>
</tr>
<tr>
<td>Consequence type</td>
</tr>
<tr>
<td>Activation Period of PPP</td>
</tr>
<tr>
<td>Uncertainty</td>
</tr>
<tr>
<td>Duration of Event</td>
</tr>
</tbody>
</table>

**FIGURE 4.3: Preliminary Attributes for Research Framework**
4.2 The Interview Instrument

In order to gather a data set with which to recognize patterns and trends that can be predictive of partnership structure, interviews with representatives from current or former partnerships for EPER were conducted. It was the intent of these interviews to gather information about each of the aforementioned attributes in figure 4.3. Twenty-one interviews, representing various partnership structures and EPER services were performed with one representative of the partnership. The case studies were found though recommendations from the Department of Homeland Security (DHS), state agencies, Public Private Partnership (PPP) organizations, and EPER practitioners. Based on the data collected from the interviews, spectrums of outcomes for each attribute were developed. These spectrums were then used to refine the interview data so that patterns and trends could be identified. For a complete list of the questions used in the interviews, see Appendix C. The data from these interviews and the trends and patterns found with this data will be discussed in chapter 5. Chapter 6 will then address how those patterns and trends should influence architects and policy makers.

4.3 Iterations to the Research Framework

The attributes listed in Figure 4.3 were modified several times over the course of the data collection and data processing phases. Most significantly, it was discovered that there is another level of distinction embedded in the privatization and EPER attributes. Some of these attributes are inherently structural in nature; these attributes reflect decisions that an architect makes about how to structure a partnership. Other Attributes are functional in nature; these attributes are naturally linked to the service the partnership is trying to provide and are independent of decisions the architect can make about them. The third category—event attributes—contains characteristics unique to partnerships that address emergency preparedness and response activities. These attributes describe the emergencies that the partnerships seek to confront.

Many of the structural attributes were previously designated as privatization attributes including: Frequency of Interaction, Leadership Structure, Existence of Contract, Number of Partners, and Number of Beneficiaries. The ‘Frequency of Interaction’ variable proved to not capture the full nature of the interaction dynamics in a
partnership, therefore a second interaction attribute—‘type of interaction’—was added to the structural attributes. The ‘type of interaction’ attribute deals with whether communication is collaborative or one way. The ‘frequency of interaction’ attribute deals with how regularly that communication takes place. ‘Existence of a Contract’ was also modified and for the rest of the thesis is referred to as the ‘Formal Tools’ attribute. This was modified since contracts are not the only formal tools available to partnerships, grants and other informal arrangements are also tools. The last two attributes—the numbers of beneficiaries and partners—did not fully capture the participatory nature of the partnerships either. Thus two more structural attributes were added. The “sectors represented by partners” and “sectors represented by beneficiaries” are intended to capture not only how many parties are effected, but who is affected by the partnership.

Two other structural attributes were discovered through the interview process and added into the data set: start date and degree of information sharing. The ‘start date’ is an important variable since it adds a time dimension to the analysis. The ‘degree of information sharing’ is also distinctly a structural attribute since how information is shared is a decision of the architect. The ‘sensitivity of the information shared’ however is not necessarily a decision made by the architect and is thus designated as a functional attributes. The functional attributes will now be discussed.

Many functional attributes were derived from the privatization attributes discussed in Figure 4.3 as well: Number of Stakeholders, Specificity of Task/ Focus, Scale of Service, Authority/ Credibility, Responsibility, Financing Capacity, Operational Capacity, Sector Expertise, Motivation, Sensitivity of Information, and Duration of Service. ‘Number of Stakeholders’ is not a structural attribute, since a stakeholder is a party that has a stake in the provision of a service. Stakeholders are not selected by the architect, they are naturally tied to the service and therefore both ‘number of stakeholders’ and ‘sectors represented by stakeholders’ are considered functional attributes. The second attribute, specificity of task/ focus, was divided into two attributes to make data classification more straightforward: focus of task and specificity of service. The ‘specificity of service’ deals with how broad or narrow the service being provided is, and the ‘focus of the task’ deals with the nature of that task. The final privatization
attribute mentioned above, ‘duration of service’ was renamed ‘length of service’ for the rest of this study.

The interview process revealed something interesting about the ‘motivation’ attribute, listed in Figure 4.3, as well. This privatization attribute was intended to address what inclined partners to involve other sectors in the service provision. However, this motivation attribute could be reframed as six distinct functional attributes. The most common motivations for including another sector are: capacity constraints, financing, and expertise. Thus, it was more informative to classify partnerships based on who possessed those resources for the service they were trying to provide. Thus, to capture those ‘motivations’, six functional attributes were created: authority/credibility/legitimacy, responsibility, financing capacity, operational capacity, service expertise, and possession of resources. The interviews then shed light on which sectors possessed these attributes. However, since these six functional attributes are closely interrelated, they will be hereafter, as a group, referred to as the ‘motivational attributes’—a subset within the functional attributes.

The final set of modified attributes is known as the ‘event attributes’. These event attribute are primarily found in the EPER attributes listed in Figure 4.3: Type of Emergency Confronted, Geographic Scale of emergency, Severity, Consequence type, and Activation Period of PPP. The severity attribute was renamed ‘severity of harm’ and the consequence type attribute was refined by renaming it ‘type of harm’. A sixth attribute was added in order to capture the EPER characteristic of the partnership: Stage of EPER. This attribute is intended to capture whether the partnership addresses preparedness or response services.

Several of the attributes in Figure 4.3 were either eliminated or reframed during the interview process: Catalyst, Degree of Risk, Political Concerns, Duration of Event, Discretion, and Uncertainty. ‘Catalyst’ proved to be a very difficult attribute to capture on a spectrum that would reveal any valuable insights into the nature of the partnership itself. Therefore, it was eliminated from the final attribute set. The three attributes that address uncertainty (degree of risk, political concerns, and uncertainty) were reframed and not included in the final attribute set. A separate analysis utilizing only the uncertainty data was performed. The ‘duration of the event’ proved to have very little
relevance to actual practitioners; this was revealed over the course of the interviews and thus this speculative attribute was eliminated. Finally, ‘discretion’ was also a difficult attribute to capture with interviews. This attribute would naturally be influenced by the representative of the partnership selected to be interviewed. Due to the natural bias in only speaking to one member of the partnership from one partner, this attribute was eliminated from the analysis. Therefore, the final set of categorized attributes used in the analysis of the data from the interviews in displayed in Figure 4.4.

<table>
<thead>
<tr>
<th>Structural Attributes:</th>
<th>Functional Attributes:</th>
<th>Event Attributes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>Number of Stakeholders</td>
<td>Type of Emergency</td>
</tr>
<tr>
<td>Type of Interaction</td>
<td>Sectors Rep by Stakeholders</td>
<td>Confronted</td>
</tr>
<tr>
<td>Frequency of Interaction</td>
<td>Specificity of Service</td>
<td>Geo Scale of Emergency</td>
</tr>
<tr>
<td>Leadership Structure</td>
<td>Focus of Task</td>
<td>Stage of EPER</td>
</tr>
<tr>
<td>Formal Tools</td>
<td>Authority/Credibility/</td>
<td>Severity of Harm</td>
</tr>
<tr>
<td>Degree of Info Sharing</td>
<td>Legitimacy</td>
<td>Type of Harm</td>
</tr>
<tr>
<td>Number of Partners</td>
<td>Responsibility</td>
<td>Activation Period</td>
</tr>
<tr>
<td>Number of Beneficiaries</td>
<td>Financing Capacity</td>
<td></td>
</tr>
<tr>
<td>Sectors Represented</td>
<td>Operational Capacity</td>
<td></td>
</tr>
<tr>
<td>by Partners</td>
<td>Service Expertise</td>
<td></td>
</tr>
<tr>
<td>Sectors Rep by</td>
<td>Possession of Resources</td>
<td></td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>Sensitivity of Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scale of Service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Length of Service</td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 4.4: Final Attributes for Research Framework

4.3.1 Attribute Spectrums

All of the attributes in Figure 4.4 can be placed on an ordinal spectrum. These spectrums are illustrated below by Table 4.1. The following table arranges the values possible for each attribute on ordinal spectrums. After an interview was performed, the locations on the spectrum for each of the attributes for that particular partnership were determined. Once all of the partnerships were categorized and coded according to Table 4.1, this meta-data set was used to determine patterns and trends and the conclusions of this research. The data and resulting analysis will be detailed in Chapter 5. The conclusions will be presented in chapter 6. It is the purpose of Table 4.1 to illustrate the possible value ranges for the attributes listed in Figure 4.4.
<table>
<thead>
<tr>
<th>Structural</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>1980s</td>
<td>1990s</td>
<td>2000s</td>
</tr>
<tr>
<td>Type of Interaction</td>
<td>bottom-up</td>
<td>collaborative</td>
<td>mixture</td>
</tr>
<tr>
<td>Frequency of Interaction</td>
<td>ad-hoc</td>
<td>irregular</td>
<td>ad-hoc and irregular formal</td>
</tr>
<tr>
<td>Leadership Structure</td>
<td>coordinator</td>
<td>a few key decision makers</td>
<td>formal board</td>
</tr>
<tr>
<td>Formal Tools</td>
<td>none</td>
<td>informal agreements</td>
<td>formal agreement</td>
</tr>
<tr>
<td>Degree of Information Sharing</td>
<td>none</td>
<td>uneven sharing</td>
<td>all-shared</td>
</tr>
<tr>
<td>Number of Partners</td>
<td>few (2-4)</td>
<td>many (5-10)</td>
<td>large #(10+)</td>
</tr>
<tr>
<td>Number of Beneficiaries</td>
<td>few (2-4)</td>
<td>many (5-10)</td>
<td>large #(10+)</td>
</tr>
<tr>
<td>Number of Stakeholders</td>
<td>few (2-4)</td>
<td>many (5-10)</td>
<td>large #(10+)</td>
</tr>
<tr>
<td>Sectors Represented by Partners</td>
<td>public</td>
<td>public and NGOs</td>
<td>public and NGOs</td>
</tr>
<tr>
<td>Sectors Represented by Beneficiaries</td>
<td>public</td>
<td>public and NGOs</td>
<td>public and NGOs</td>
</tr>
<tr>
<td>Sectors Represented by Stakeholders</td>
<td>public</td>
<td>public and NGOs</td>
<td>public and NGOs</td>
</tr>
<tr>
<td>Functional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus of Task</td>
<td>operational</td>
<td>both</td>
<td>managerial</td>
</tr>
<tr>
<td>Specificity of Service</td>
<td>narrow</td>
<td>middle</td>
<td>broad</td>
</tr>
<tr>
<td>Authority/Credibility/Legitimacy</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Responsibility</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Financing Capacity</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Operational Capacity</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Service Expertise</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Possession of Resources</td>
<td>public</td>
<td>shared</td>
<td>private</td>
</tr>
<tr>
<td>Sensitivity of Information</td>
<td>public</td>
<td>range</td>
<td>sensitive</td>
</tr>
<tr>
<td>Scale of Service</td>
<td>point</td>
<td>city</td>
<td>state</td>
</tr>
<tr>
<td>Length of Service</td>
<td>months</td>
<td>years</td>
<td>indefinite</td>
</tr>
<tr>
<td>Event</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Emergency Confronted</td>
<td>natural</td>
<td>all-hazards</td>
<td>man-made</td>
</tr>
<tr>
<td>Geo Scale of Emergency</td>
<td>point</td>
<td>city</td>
<td>state</td>
</tr>
<tr>
<td>Stage of EPER</td>
<td>preparedness</td>
<td>both</td>
<td>response</td>
</tr>
<tr>
<td>Severity of Harm</td>
<td>minor</td>
<td>range</td>
<td>severe</td>
</tr>
<tr>
<td>Type of Harm</td>
<td>things</td>
<td>both</td>
<td>people</td>
</tr>
<tr>
<td>Activation Period</td>
<td>ex-ante</td>
<td>during</td>
<td>ex-post</td>
</tr>
</tbody>
</table>

**TABLE 4.1: Spectrums for Classifying Partnership Attributes**

In conclusion, the general research methodology is best visualized with the research structure diagram in chapter 1. This chapter has discussed the refinement of the research method, as illustrated in the preliminary finding cycle, the data gathering block
in its entirety, and has set the stage for the analysis and conclusions block that will be discussed in chapters 5 and 6.

FIGURE 1.1: Research Structure

Data

Analysis

Conclusions

Preliminary Framing

Data Gathering

Analysis and

Conclusions

FIGURE 1.1: Research Structure
Works Cited


CHAPTER 5: Case Study Data and Findings

Twenty-one interviews were conducted with representatives from various emergency preparedness and response (EPER) partnerships. One representative from each partnership was interviewed and all interviewees asked the same set of questions. Interviewees came from the federal government, state and local public employees, and representatives from the private sector. Partnerships were selected based on recommendations from the Department of Homeland Security (DHS), the Business Civil Leadership Center (BCLC), and internet searches for partnerships for emergency preparedness and response. Several more partnerships were pinpointed than interviews were performed and there was a selection bias dependent on which partnership represented returned emails requesting an interview. Of the 21 interviews conducted, 18 were used in the data analysis. The interviews that were not included in the analysis were deleted because they did not provide a true emergency preparedness and response service.

5.1 Case Study Data

The descriptions of the 18 partnerships that were used in the data analysis are listed below.

**SPIN Summary:** This is a partnership where the police department (PD) of Nassau County, New York collects and distributes information about various emergencies (Weather, traffic incidents, robberies, terrorism) to private sector partners within the county who use that information to better prepare themselves for future emergencies. The partnership is operated and funded by the PD and is primarily an information-sharing activity. This is not a formal partnership, but the private sector does provide expertise and force multipliers.

**Katrina Back to Business Workshops Summary:** After Hurricane Katrina, local businesses needed information and people in order to recover and get the economy moving again. This service was provided by the federal, state and local government and spearheaded by the DHS private sector office. Three workshops were held at various locations in Louisiana that (1) acted as a job fair to help businesses
and people looking for jobs to connect and (2) provided information about how to get up and running again (how to get building permits, water, etc…). This is an example of a task that was controlled by the government (both financially and provisionally) in order to help to private sector that was reduced to disarray and confusion.

**Technical Assistance Contract Summary:** After a disaster, public infrastructure may be damaged; this contract employs three engineering firms to assess the damage to that infrastructure in order to estimate the cost to fix it. These cost estimates, and the determination of what insurance will cover, are the basis for grants that FEMA provides to states to reimburse the rebuilding of public infrastructure. Contractors are used both due to their technical expertise and the lack of full time staff at FEMA to provide the same service. The contracts are reopened to competition in 5 year cycles and awards are based on technical expertise. There were 3 contracts valued at $200 million each in 2007.

**Katrina Call Center Contract Summary:** This is an ad-hoc response partnership that staffs call centers receiving calls from the public registering the damage they have incurred as a result of a disaster and are thus requesting government assistance. After Hurricane Katrina, more call center agents were needed than FEMA employs due to the millions of people submitting registrations. An Urgent and Compelling Contract was formed with two contractors to provide the capacity needed to handle to call volume. The partnership lasted for 5-9 months and was terminated when call volume was reduced. FEMA is interested in creating a more permanent contract for this service because ramp up and down costs are so high, but has not done so yet. These ad-hoc contracts are used for emergencies (theoretically all-hazards) that require higher volume, but typically only natural disasters create a need for those volumes.

**Aid Matrix Grant Summary:** This partnership provides donation logistic management software for emergency response activities. The software was created by and will be maintained by Aidmatrix and is funded by a grant from FEMA. Users of the software include (1) private donors of supplies after an event and (2) voluntary agencies (Red Cross, Food Banks and Faith Based Orgs) and some government entities that will utilize the donations. Leaders in the field can access the donation
system and get in touch with the donator to arrange delivery of the goods; they arrive when they are needed and thus the disaster area is not clogged up with un-needed supplies and the transportation nodes are not congested with donations. This partnership was initiated after the logistics failure of hurricane Katrina and should remain indefinitely.

**ESRI Project Impact Partnership Summary:** This partnership was an extension of the Project Impact (PI) program at FEMA in the late 90s that sought to reduce risk in local communities. In this partnership, ESRI donated Geographic Information Systems (GIS) software and technical support to local communities whose proposals won a competition for that resource. Awards were made for 3 years, annually, at the PI conference. FEMA and ESRI coordinated to competition and once the awards were made to communities, ESRI trained local users in the software. The software enables communities to assess risk by correlating natural hazards to vulnerabilities (flood plains, salt lines, etc…) and current preparedness efforts (evacuation routes, etc…). This data could then be used in determining future zoning and the rerouting of emergency response plans. This program was ultimately terminated in 2001 when the Bush administration cut Project Impact as a whole.

**Democratic National Convention (DNC) 2004 Partnership Summary:** For the Democratic National Convention in 2004, the city of Boston had to prepare for a host of changes and situations that could occur during the 4 day convention. The goal was to create the best plan possible for risk avoidance and public safety. Some of the many tasks encountered were: terrorism prevention and response; demonstrators and activists, traffic flow; supplies into the city; police deployment; and public transport. Initially the public sector partnered with itself trying to coordinate many of these services, but realized they needed to engage the private sector. The private sector was engaged by including them in the taskforces and coordinating the loaning of resources to the DNC. Each partner provided financing and delivered a portion of the tasks; however, most of the security service provision was done by the public sector (local PD and Secret Service). The DNC committee was able to avoid any emergencies and created plans that enabled to city to operate as close to ‘business as usual’ as possible. The collaboration was extremely complex and a success for that event, but the
services and taskforces were not institutionalized for future planning and preparedness efforts.

Medical Reserve Corps Summary: The Medical Reserve Corps (MRC) is housed within the Office of the Surgeon General, but it is a community-based program that encourages the creation of local units to address public health and emergency management issues. This nationwide network of local MRCs enables local volunteers - mostly medical and public health professionals, but others as well - to be identified, credentialed and trained in advance of an emergency, therefore allowing their utilization when the need arises. Many MRCs also support ongoing public health efforts, like health screenings and disease prevention activities throughout the year. A goal of this partnership is to increase the resiliency of local communities, to enable them to better deal with their medical and public health needs day-to-day and following emergencies. There are currently 644 MRCs, each led by a local MRC coordinator. Housing organization, funding level, mission, and organizational structure all vary by MRC. In all MRCs, however, volunteers are coordinated to reduce the confusion that can ensue post-disaster if volunteers just show up and get in the way. This is reduces the risk to all involved, and volunteers and victims are safe and protected.

National Infrastructure Protection Plan (NIPP) Sector Coordinating Councils (SCCs) Summary: The NIPP created a coordinated national framework for Critical Infrastructure/Key Resources (CI/KR) protection within and across sectors. The partnership structure enables the formation of Sector Coordinating Councils (SCCs) which bring together representatives from specific sectors to share best practices and lessons learned in risk mitigation efforts. SCCs self-organize and are self-run in order to share critical information about the state of their sector. This partnership structure established the Homeland Security Information Network (HSIN), a free mechanism for sharing threat information with the private sector so they can take action to mitigate against real threats. The goal is to have incidents also reported up to the government from private sector owners and operators through the local law enforcement in order to share general information as well. Owners assess risks and then make security investments and take protective actions at their own
discretion. The relationship between the private sector and government is a “peer relationship” since the government has no authority to mandate private sector action in the area of CI/KR preparedness (outside the chemical sector). Thus, all action is completely voluntary and consensual. Membership in the SCCs is free, though some SCCs may choose to fund a staff or information sharing tool for their own purposes. The government provides administrative support at all levels to all 17 SCCs. Ultimately, the goal of this partnership structure is to enable members of the CI/KR community to uphold their responsibility to provide essential services as efficiently as possible in the face of all hazards and to mitigate threats where possible.

**Business Round Table (BRT) Partnership for Disaster Response**

**Summary:** This partnership is coordinated by the Business Roundtable Taskforce: Partnership for Disaster Response (PDR). Established in May 2006, this taskforce consists of 30 dues-paying private sector members. The CEOs of the members meet quarterly to conduct business. The PDR serves five primary services: (1) get the private sector and government representatives in touch through meetings to leverage expertise; (2) help the government partner better with the private sector overall; (3) provide communications capacity for members before or after an emergency through secure phone lines and web pages; (4) track members donations to various agencies after a disaster to determine how well those resources were utilized; and (5) leverage private sector resources to create better processes for the next disaster. Thus, the PDR provides several services to its members as well as facilitating interaction between those members and the government so that the government can leverage their expertise to improve the overall response structure. Several members are involved in projects with the government to improve national response on a voluntary basis; the government’s contribution is allowing these private sector entities to come to the table.

**BCLC (Business Civil Leadership Center) Disaster Response and Recovery Program**

**Summary:** The Disaster Response and Recovery Program is a partnership between a coordinator—the BCLC—corporate donors, public sector representatives, and NGOs. This partnership provides two primary services: (1) influence the process and communications used in emergency response and recovery
efforts; and (2) ease the method for distributing donations and contributions after a disaster occurs. BCLC and partners continuously work on the first function, whereas the second is dependent on the occurrence of a national catastrophic event. This is a unique type of collaboration due to the presence of a coordinator whose contribution is enabling communication between partners and acting as an advocate for overall improved emergency response processes. BCLC is a non-profit charitable organization who provides expertise in making connections in the emergency preparedness community. The risks to this partnership/program include some political risks (non-profit competition, perceptions of effectiveness and partisan politics), the risk of continuing relevance of mission, and the risk of declining donors over time to support the program.

Localized Incident Command Partnership Summary: This partnership is a local effort between a private sector corporation and the Fire Department (FD) to ensure the best possible response to local incidents in order to minimize impact. Working together through the structure of both public and private incident command systems, the tasks of incident management are divided between the partners in a complimentary way. In order to jump-start a partnership, the private sector partner identifies at risk facilities and then (1) familiarizes the FD with those facilities through tours of the building and (2) prepositions supplies and systems to mitigate incidents and risks. These local partnerships are duplicated in other areas on a facility-by-facility basis. Large-scale incidents that extend beyond the boundaries of the selected facility are not addressed with this partnership. Ultimately, this partnership seeks to achieve three goals (1) life safety (2) incident suppression and (3) asset protection.

Office Depot Foundation Partnership: The Office Depot Foundation strives to (1) ensure the safety of employees and (2) enable prompt return to business and life as usual after an emergency situation. Funded by employees and matched by Office Depot, the funds are used to (1) support relief agencies that provide services to employees and the community in the immediate aftermath of an emergency and; (2) assist employees who underwent damage during the emergency to return to life as usual. Office Depot works with several partners, including the Red Cross, Feed the
Children, BCLC and DHS, to achieve its mission and share preparedness and response best practices. Office Depot funds the partnership and each partner provides critical components of the services required to achieve the Foundation’s relief goals. The main beneficiaries of these relief efforts are Office Depot employees and local affected communities. Primarily, this partnership focuses on how to best allocate money to aid in the relief effort, though the Foundation often provides other in-kind donations as well.

**Abbot Production Contributions Program Summary:** After an emergency Abbot partners with various proven relief agencies to provide pharmaceuticals and nutritionals to the immediate relief effort. Abbot chooses the partners they want to work with, based on their ability to respond effectively to a particular disaster, and those relief agencies perform assessments to determine what products and how much of those products are needed. Relief partners then request product from Abbot who delivers them to specific sites for the relief partners to distribute to the end users. This partnership is activated for a variety of emergencies and has responded to both natural disasters and internal conflict. Abbot does not have the capacity alone to distribute their product since they cannot get into the effected sites as quickly as the relief organizations. The relief organizations rely on Abbot’s donations in order to respond more robustly as well. The government is not involved in this activity at all; this partnership is a private sector collaboration effort.

**Tyson’s Disaster Relief Program Summary:** In this partnership, Tyson works with various relief agencies to provide food in the immediate aftermath of a disaster. The relief agencies specify the location the truck must deliver the food to and the partners mutually decide how much will be sent. Depending on the relief agencies that contact them for assistance, the communication will be different. These partnerships are ad-hoc after each emergency and last for the immediate relief period. The ad-hoc partnerships do influence future interaction however since Tyson tends to work with the same relief agencies. The largest risk/hurdle that this partnership faces is the internal politics of the large relief agencies. Since the relief agency stipulates the delivery location, if there is no contact initiated by the relief agency, then a
partnership will not be activated. The government is not involved in this activity; this partnership is a collaboration between various private sector entities.

**Red Cross Coordinated Assistance Program (CAN):** This partnership shares client data between participating NGOs after major disasters in order to eliminate duplicative relief and recovery efforts. This client data includes a victim’s story and what types of services they have received from other NGOs after a disaster. In order to share the data, a web based application—maintained by CAN and the Red Cross—is activated upon request by the member agencies, typically after major disasters. This application is not available at all times. All participating NGOs (approximately 220) must sign legal agreements with the Red Cross that outlines the information sharing and privacy concerns of clients. Because of the privacy concerns with this information, the government can not access the database; government access may be a deterrent to some NGOs and clients to use the system. This partnership is funded through donors who are not involved, as of right now, on the steering committee for the partnership.

**Regional Intelligence Sharing Network Partnership:** This is a fusion center partnership that is a regional information sharing network for crime and terrorism intelligence in a large urban area. The information that is pooled is from local Police Departments, state law enforcement, the federal government (FBI) and the private sector. Threat information is provided by the public sector and a large percentage of the vulnerability and suspicious activity information by the private sector. The mission of this partnership is to enhance the region's overall level of public safety by, on an ongoing basis, sharing information about threats and vulnerabilities and providing one public sector contact point for private sector partners to call for current, accurate and consistent threat information. There is no contract and participation is free and voluntary for the private sector. The technology for this partnership is still in its design phase however; finding a technology that can effectively synchronize all threat and vulnerability information into one database is proving to be difficult. The ultimate goal is for analysts to use that coordinated database in order to make strategic threat assessments for the region. There are many threats to the sustainability of this partnership including: competition for budget, privacy issues, technology
issues, public perception of "intelligence" sharing at the local level, and the internal cultural dynamics of the partners.

**A2H Disaster Relief Partnership**: America’s Second Harvest (A2H) solicits product donations from the food and grocery industry to distribute to their network of food banks, during regular operations as well as after disasters. A2H works with fortune 500 companies and convinces them to donate food and groceries that are unable to be sold to retailers, grocery stores, mass merchandisers or other venues. A2H’s headquarter location in Chicago acts as a broker to match those in-kind product donations with Member food banks. In regular operations the food banks and donors typically coordinate the transportation of the goods; during a disaster those transportation needs and costs are assumed by A2H. In addition to working with their network of food banks and over 40 corporate product donors during times of disaster, A2H tries to coordinate with American Red Cross, the Salvation Army, and FEMA to reduce duplicated efforts in distribution to those in need or evacuees. Ultimately, this partnership is a collaborative arrangement between A2H, the coordinator, and businesses and food banks. Risks to the operation and sustainability of the partnership include: media uncertainty, disaster location uncertainty, and added scrutiny to daily operations from unaffected parts of the network.

### 5.2 Research Findings

Once the interviews were completed, the partnerships were classified based on the spectrums described in **Table 4.1**. The data was then color coded with shades of grey and organized in order to elicit patterns and trends from the data. For a given attribute, the data was organized on its spectrum and then compared to every other attribute to determine relationships. This reorganization was repeated for each event and functional attribute in order to find relationships between the event, functional, and structural attributes. For the full spreadsheet see **Appendix D**.

After comparing the attributes, several conclusions emerged. Some of the conclusions confirmed existing privatization theory whereas others are new. The new conclusions have not previously been commented on in literature due to the lack of privatization literature on EPER services. There are 6 confirmatory conclusions laid
out in section 5.2.1 and 17 new conclusions described in section 5.2.2. The new conclusions can be further categorized as: expected, counterintuitive and weak. The new expected conclusions are findings that are both logical and novel. The new counterintuitive conclusions are novel, but not necessarily what was logically expected. The new weak conclusions are also novel, but have weaker data supporting their arguments and thus a larger data set may be needed to comment definitively on them. The implications of these findings for EPER partnership architects are discussed in chapter 6.

5.2.1 Structures Illustrated in EPER Case Studies

Before describing the aforementioned conclusions, the partnership structures observed in the case studies will be discussed. Of the 18 case studies, there was one example of public supply and operation (Public SAO), two contracts, one grant and 14 examples of collaborative governance, or PPPs. Due to the large numbers of collaborative structures encountered, it was determined that these partnerships may be further refined. Thus, the collaboration partnerships were divided into three sub-designations: (1) public-private collaboration (2) private collaboration and (3) facilitated collaboration.

Public-private collaboration is characterized by partners from both the public and the private sector. Private collaboration consists of partners only from the private sector (including NGOs). Facilitated collaboration is unique from the other two structures. The two facilitated collaboration partnerships—BCLC and BRT—primarily act as intermediaries for the public and private members who actually implement EPER services. These facilitated collaboration partnerships operate differently from the other collaboration structures and thus should remain distinct. All three collaboration structures fall within the structure categorization of “collaborative governance/PPP” but are further refined for the EPER partnerships studied in this thesis. All structures that are traditionally considered “collaborative governance” or PPPs are hereafter classified as either (1) public-private collaboration (2) private collaboration or (3) facilitated collaboration.

5.2.2 Confirmatory Conclusions
The following conclusions found in the data analysis confirm existing privatization theory and thus increase the credibility of the analysis as a whole. These confirmatory conclusions are listed and explained as follows.

1. The formal tools used to provide a service influence the partnership’s structure. Contracts and Grants tend to use formal agreements, whereas informal agreements show up in collaborative structures.

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<th>Ptnrsip Name</th>
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<th>Aid Matrix Project</th>
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Table 5.1: Formal Tools and Structure

This follows directly from the definition of a contract and a grant (see section 2.3.1). These structures utilize legal agreements to specify the terms of a partnership—including how much payment will be received by the producer and what degree of service should be provided. The other types of structures represented by the data set—public supply and operation, public-private collaboration, facilitated collaboration, and private collaboration—are much less formal partnership structures and thus one would not expect to see formal agreements here.

The presence of informal agreements in private collaborations is not surprising but a bit more unconventional. Typically in collaboration (PPP) arrangements, missions are aligned as a means for ensuring continuity in the service
provision. However, in the two private collaborations that utilize informal agreements—A2H and Red Cross CAN—the architects chose to protect themselves with more than mission alignment. In the A2H Disaster Relief partnership, A2H signed various informal agreements with food providers specifying how much food they are to provide to affected areas in the recovery process. Since the recovery process is much more long term than immediate relief efforts, A2H signed these agreements to ensure continuity in the goods being provided to recovery areas. For the Red Cross CAN partnership, the architects found it necessary for all member NGOs to sign privacy agreements to ensure that client (victims of disasters) data would not leak from the CAN system. This added another layer of protection onto the partnership. As expected however, the other 12 collaboratory arrangements do not utilize any formal or informal tools and instead rely on trust and other intangibles to preserve the partnership structure.

It should be noted that another reason that formal agreements do not show up in private collaborations is the nature of how the private sector operates around EPER services. Due to the degree of uncertainty present in providing EPER services to the public, whether humanitarian or not, formally committing to provide a service regardless of severity, location and scale is unrealistic for the private sector. Ultimately the private sector is a profit seeking entity and will chose to preserve its financial well-being over humanitarian aid. Thus, the private sector is extremely hesitant to sign any binding agreement in many EPER areas. The exceptions of course are the contracts and grants that are formal agreements between the public and private sector; but the services that the private sector signed on to provide in these formal arrangements are profitable for the companies involved in the partnership because they are paid in proportion to the scale of response required by them. The private collaborations studied in this research, however, are not profitable services and thus scale is a huge consideration. Therefore, it is noted, that outside of profitable contracts and grants for specific services, the private sector should be expected not to sign any agreements binding them to EPER service provision.
2. The motivational attributes influence the partnership’s structure. The sectors that possess the motivational attributes will be a factor in which structure is appropriate.

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**Table 5.2: Motivational Attributes and Structure**

This result is well-documented in privatization literature, though framed in a different way. According to Donahue and Zeckhauser, the primary motivations for privatization, as discussed the Chapter 2 (Section 2.2.1), are resources, information, productivity, and legitimacy (Donahue and Zeckhauser 17). This data represents those
motivations in terms of *who* possesses them. The motivational attributes are thus: (1) which sector has the authority/legitimacy/credibility to provide the service; (2) which sector has the responsibility to provide the service; (3) which sector possesses the financing capacity; (4) which sector has the operational capacity to run the service; (5) which sector is the expert in the service provision (an indicator of who can perform the task the most productively); and (6) which sector possesses the resources necessary to operate the service (including information). As the private sector is found to possess more of these motivational attributes, one would expect the private sector involvement in the service provision—the degree of privatization—to increase. This is illustrated by the data as the motivational attributes become increasingly reliant on the private sector. First public-private collaborations appear as the attributes are shared between both sectors, and then purely private collaborations appear as the attributes become purely private. This data shows a direct correlation between the motivational attributes of a partnership and the structure selected to provide that service.

### 3. The motivational attributes influence the sectors chosen to be partners and those sectors that are beneficiaries or stakeholders.

For the services that are primarily private in operation, funding and responsibility, the private sector becomes the main partners.
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<th>Partnership Name</th>
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Table 5.3: Motivational Attributes and Sectors Represented
This conclusion should be a logical follow-on to the previous finding. If the motivational attributes reveal that the private sector possesses most of the legitimacy, responsibility, financing capacity, operational capacity, service expertise and resources, and thus the architect chooses a private collaboration structure, the partners should be solely represented by the private sector. This illustrated by the last four partnerships in the table—Abbot, Tyson’s, Red Cross CAN and Office Depot Foundation. All of these partnerships are purely private sector collaborations due to the nature of the motivational attributes and thus only private sector partners (NGOs are considered private sector) should be present in the partnership. Alternatively, when the motivational attributes are either shared or different sectors provide different attributes, then multiple sectors must be engaged in the partnership.

Sectors can be engaged in various ways however: as stakeholders, as beneficiaries or as partners. Any party that is a stakeholder has a stake in ensuring the service is provided and thus often becomes a partner. Stakeholders are functional attributes since the parties that have a stake depends solely on what service is to be provided. On the other hand, both the partners and beneficiaries are structural attributes since who benefits from a service and who is involved in its provision are decisions of the architect, to some degree. A key conclusion is that the stakeholders, beneficiaries, and partners are not always the same in an EPER partnership. For most of these partnerships, the general public is a primary beneficiary and stakeholder who is never formally involved as a partner.

4. Partnerships with a narrow focus tend to be more operational in nature; partnerships with a broad focus tend to be more managerial.
This is a hypothesis that was explored in a conversation with Professor John Donahue at the Kennedy School of Government at Harvard University. This privatization expert commented that in any partnership structure, he would expect to see a relationship between the specificity of the service being provided (how narrow or broad it is) and the focus of that task (whether the partnership is operational or managerial). The distinction between operational and managerial partnership deserves some discussion. An operational partnership is one that is focused primarily on implementing a specific task. These partnerships are concentrated on “making the rubber meet the road”. For example, the Abbot Contributions partnership is purely operational. After an emergency, this company interacts with its NGO partners (Red Cross, Salvation Army, etc…) and determines what pharmaceutics and nutritionals (ensure, etc…) are needed at what disaster locations. Those products are then delivered and dispersed. This partnership is completely focused on implementing a very operational task.
On the other hand, managerial partnerships are focused more on coordination, strategy and information sharing. These partnerships are less concerned with implementing specific EPER services themselves; they instead enable their partners to implement on their own or smaller sub-groups. For example, the National Infrastructure Protection Plan (NIPP) has created a framework for the 17 critical infrastructure sectors to interact in order to share best practices and lessons learned to reduce vulnerabilities and mitigate hazards. These sector coordinating councils (SCCs) consist of representatives from the sector in question (chemical, transportation, etc…) that discuss strategies for their sectors and share relevant information. This partnership is purely managerial; it provides a service that brings together relevant partners and then shares information that enables partners to implement specific EPER services themselves. However, the managerial task of bringing the partners together is an important EPER service in itself; without the connections this partnership creates, many other EPER services would not be provided.

There are some partnerships that have components of both types of tasks: some implementation and some strategy, coordination and information sharing. For example, the DNC partnership brought together partners to share information and create strategy surrounding the Democratic National Convention in Boston. This partnership was also operational however in that it performed most of the security measures that occurred during that week as well.

The data shows that there is a correlation between the focus of the task and how narrow or broad that task is. It is logical that tasks that are considered narrow would be easier to make operational due to their specificity. Handling a very narrow task in a managerial way would be somewhat counterproductive. Ultimately EPER partnerships strive to implement or enable implementation. If a service is easily implemented (as most narrow tasks are) then the complexity introduced by handling it in a managerial way would be sub-optimal. On the other hand, services that are broad would be more difficult to be completely operational due to the complexity of those services; therefore the most value added from broad services is revealed through the activities found in managerial tasks. Therefore, this data clearly reveals that the
Donahue hypothesis proved to be true according to the data used in this study: narrow tasks are handled through operational partnerships and broad tasks are handled through managerial partnerships.

5. Partnerships with a broad focus do not use formal tools. The narrower the focus, the more likely it is a contract or other legal agreement may be used.

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<thead>
<tr>
<th>Partnership Name</th>
<th>Katrina Call Center</th>
<th>Techm. Assistance</th>
<th>Aid Matrix Project</th>
<th>Back to Business Wksp.</th>
<th>ESRI Project Impact</th>
<th>Local Incident Command</th>
<th>Tyson’s Disaster Relief</th>
<th>Abbott Contributions</th>
<th>Office Depot Foundation</th>
<th>MRC</th>
<th>A2H Disaster Relief</th>
<th>Red Cross CAN</th>
<th>SPIN partnership</th>
<th>DNC Partnership</th>
<th>Regional Info Sharing</th>
<th>NPP</th>
<th>BRT</th>
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**Table 5.5: Formal Tools, Focus of Task and Specificity of Service**

This data reveals that contracts, grants, and other formal or informal tools are appropriate only for tasks that are narrow in scope. All four partnerships that utilize formal tools are providing a service that has a narrow focus. This is consistent with general privatization opinion on the use of contracts. Contracts are thought to be appropriate only for tasks that are highly specifiable since the act of writing a contract requires all contingencies to be outlined in the document. According to Savas, when
quality and scope are critical and can vary, contracting becomes complex (Savas 91-104). Essentially, when there are a wide variety of potential qualities that a service can be provided at and high quality is critical, specifying contracts can be difficult due to difficulties in determining performance criteria. For EPER services, quality is critical which would naturally make writing contracts for these types of services difficult. But they are present according to the data. This can be explained by the second variable that Savas mentions: scope. When the scope can be defined and is reasonably narrow, then despite the quality constraints, an effective contract may be written. Thus, for EPER partnerships, this data reveals that formal and informal arrangements (including contracts) are only possible for tasks with narrow scopes but are not suitable for all such partnerships.

5.2.3 New, Expected Conclusions

In addition to the confirmatory conclusions that were discovered with the coded case study data, there were also several new, expected conclusions that relate event and functional attributes to one another and several structural attributes. These conclusions are relatively novel and offer the most wealth for architects of EPER partnerships. The 17 conclusions and the relevant data from the case studies are presented below.

1. Partnerships addressing events that effect people tend to be owned, operated, and financed by the private sector.
Table 5.6: Motivational Attributes and Type of Harm

The data clearly shows that partnerships that address events that harm people are typically private sector collaborations. For five of the six partnerships that were designed to address events that harm exclusively people, the majority of the authority, responsibility, financing, capacity, expertise, and resources lies with the private sector. All of the private-private collaboration partnerships studied address events that harm people. One of the seven public-private collaborations addresses exclusively events that harm people, but these arrangements are also used for events that address only things and both people and things.

This is a surprising result: the private sector is performing many humanitarian services in the wake of a disaster, not the government. This result is primarily because the expertise for these humanitarian response services lies with the non-profit sector, an insight gathering through many interviews. Many of the required
skills in the response effort have been concentrated in the non-profit sector. Organizations such as the Red Cross, United Way and Salvation Army are known experts in distributing food and goods after an emergency. These findings are not asserting that the government should or should not be providing humanitarian response services; it is observed that the private sector tends to provide these services due to resources, expertise, and the other attributes listed in the table.

On the other hand, the public sector is much more involved in partnerships that address both types of harm (to people and things) and exclusively things. “Things” include public infrastructure, the economy, and other non-human victims. It is not surprising the government is involved in events which impact public infrastructure, even though the vast majority of that infrastructure is owned by the private sector. Many critical services cannot be performed without that infrastructure operational, and thus the government has a large stake in ensuring its recovery. Many times the cost to expedite the repair of these facilities would be cost-prohibitive for the private sector alone, and thus it is critical for the government to step in supplement efforts.

2. Operational partnerships tend to be led by either one coordinator or a few key decision makers. The more managerial the partnership, the more likely a board is to be involved in the leadership.
Table 5.7: Leadership Structure and Focus of Task

According to the table, 10 of the 11 partnerships that are exclusively operational are led by either a coordinator or a few key decision makers. Operational partnerships are those that implement a specific task or set of tasks; managerial partnerships on the other hand tend to be focused on overall coordination efforts. Therefore, it is not surprising that an operational partnership, with a narrow mission, would tend to be led by an individual or a few individuals. When the task the partnership accomplishes is highly specified it is much more likely and able to be managed by a few key people. The exception is the Medical Reserve Corp (MRC) partnership where local steering committees are involved in strategy issues; this partnership also relies heavily on local coordinators however for coordinating a medical response after an emergency.

If the partnership is more managerial, with a broad mission, the daily tasks of the leadership are not implementation; in this case, leadership is often more involved in strategic decision making. Of the three managerial partnerships, all are led by a board for oversight, expertise, and strategy. The main goal of these partnerships (NIPP, BRT, BCLC) is to provide means for members to implement EPER tasks; the partnership itself does not necessarily implement those best practices, lessons learned, and general strategy.

Interestingly, of the four partnerships that perform both managerial and operational services, all have the presence of a board and half also employee coordinators. For the Red Cross CAN partnership, the operational aspects are still in the design phase. Therefore, at this point, much of the guidance and leadership for this partnership comes from a board of stakeholders. For the SPIN and Regional Information Sharing Partnerships, a board is present in order to develop security best
practices and guide strategic decision making; coordinators are necessary as well however because both of these partnerships are operational as well. For the fourth partnership, the DNC, there were so many partners and stakeholders in this effort to prevent, mitigate and respond to any events during the DNC, that the only effective way to engage all relevant parties was to divide the leadership and operational units into boards for several key issue areas. Therefore, the key insight in this data set is that as partnerships enlarge their mission and become more managerial, a board may become more necessary to guide the direction of the partnership. With broad missions come much flexibility and discretion in where to concentrate efforts; therefore a board of experts may be more effective at controlling the focus of the partnership.

### 3. Partnerships with a narrow, operational focus and tend to use top down communication models. Collaborative communication models are used for both narrow, operational and broad, managerial focuses.

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<thead>
<tr>
<th>Partnership Name</th>
<th>Local Incident Command</th>
<th>A2H Disaster Relief</th>
<th>ESRI Project Impact</th>
<th>Office Depot Foundation</th>
<th>Tyson's Disaster Relief</th>
<th>Red Cross CAN</th>
<th>SPIN partnership</th>
<th>NIPP</th>
<th>BRT</th>
<th>BCLC</th>
<th>Aid Matrix Project</th>
<th>DNC Partnership</th>
<th>Techn. Assistance</th>
<th>Regional Info Sharing</th>
<th>MRC</th>
<th>Abbot Contributions</th>
<th>Katrina Call Center</th>
<th>Back to Business Workshops</th>
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<tr>
<td><strong>Type of Interaction</strong></td>
<td>public-private collab.</td>
<td>private-private collab.</td>
<td>private-private collab.</td>
<td>private-private collab.</td>
<td>private-private collab.</td>
<td>public-private collab.</td>
<td>facilitated collaboration</td>
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<td>Grant</td>
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<td>public-private collab.</td>
<td>public-private collab.</td>
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<td>contract</td>
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<td>private-private collab.</td>
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<td><strong>Focus of Task</strong></td>
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<td>facilitated collaboration</td>
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<td>Grant</td>
<td>public-private collab.</td>
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<td>contract</td>
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<td>public-private collab.</td>
<td>private-private collab.</td>
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<td><strong>Specificity of Service</strong></td>
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<td>facilitated collaboration</td>
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<td>Grant</td>
<td>public-private collab.</td>
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<td><strong>Structure</strong></td>
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<td>facilitated collaboration</td>
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<td>Grant</td>
<td>public-private collab.</td>
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<td>contract</td>
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<th>KEY</th>
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<tr>
<td><strong>Type of Interaction</strong></td>
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<td><strong>Focus of Task</strong></td>
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<tr>
<td><strong>Specificity of Service</strong></td>
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**Table 5.8: Focus of Task and Type of Interaction**
This conclusion naturally follows from the complexity of a task influencing how it is best implemented. Highly specified missions are typically accompanied by more operational partnerships since the task being performed is specific enough to implement successfully. On the other hand, with broad missions, a specific task is more difficult to implement since the partnership has so many goals; therefore they tend to operate more as managerial partnerships. Therefore, just as operational missions are more likely to be led by one coordinator or a few individuals, they would also seem more suitable for top-down communication models than managerial partnerships. It would seem natural for directions to be passed down from one coordinator to the rest of the partners to expedite implementation in an operational partnership. This is not true for all operational partnerships however. Operational partnerships are not exclusively top-down in communication structure; of the 11 operational partnerships, only four are purely top-down and two have components of both types of communication. Thus the primary insight is not that operational partnerships tend to be top-down, but that managerial partnerships are not.

Managerial partnerships, due to their more vague nature, would be very difficult to operate in a top-down fashion. Managerial partnerships almost intrinsically rely on collaborative communication; these partnerships are led by boards, they aim to share knowledge in order to optimize their EPER mission, and they rely heavily on relationship and trust in order to remain sustainable. Thus, one would expect a managerial partnership to be collaborative in communication structure.

4. Partnerships with a broad, managerial focus tend to operate continuously. Partnerships that operate exclusively before or after an emergency tend to have a narrow, operational focus.
According to the data, all of the exclusively managerial partnerships operate continuously. Exclusively operational partnerships on the other hand occur in all three activation periods: ex-ante, ex-post and continuous. However, the operational partnerships are concentrated in the ex-post activation period; 9 of 10 ex-post partnerships are operational. Lastly, partnerships that have both operational and managerial components can be found active primarily ex-ante, but also ex-post. Three of the four ex-ante partnerships perform both managerial and operational services.

It is logical that managerial partnerships would operate continuously. These partnerships have a host of tasks to perform and are primarily generating best practices and strategies to improve emergency management processes as a whole. Therefore, these partnerships would need to operate continuously—not just before or after an emergency—in order to perform their tasks. However, operational partnerships tend to perform well defined narrow tasks and do not need to operate continuously in order to perform their mission. Interestingly, partnerships that perform both operational and managerial tasks tend to be performed before an

<table>
<thead>
<tr>
<th>Pttnship Name</th>
<th>Focus of Task</th>
<th>Activation Period</th>
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<tr>
<td></td>
<td>Managerial</td>
<td>Continuous</td>
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<td>Both</td>
<td>Ex-Post</td>
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<td>Operational</td>
<td>Ex-Ante</td>
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**Table 5.9: Focus of Task and Activation Period**

Focus of Task and Activation Period
emergency—ex-ante. Looking at these three partnerships—Regional Information Sharing, SPIN and DNC—this makes sense. These partnerships rely on the anticipation of emergencies in order to try to prevent them. These are preparedness partnerships that engage many partners in order to share information about potential threats, develop strategy to counter them, and then act before the emergency happens. Thus these partnerships are both operational—by preventing emergencies—as well as managerial—by developing strategies and sharing information between partners.

Thus, the main insight this data reveals is that depending on how a partnership decides to run—operationally or managerially—the time frame surrounding an emergency in which it operates may be influenced.

5. Partnerships with a broad focus involve larger numbers of partners. Partnerships with a narrow focus involve fewer numbers of partners.
Table 5.10: Focus of Task and Number of Partners

<table>
<thead>
<tr>
<th>Specificity of Service</th>
<th>Focus of Task</th>
<th>Number of Partners</th>
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<tbody>
<tr>
<td>Broad</td>
<td>Managerial</td>
<td>Large Number (10+)</td>
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<tr>
<td>Middle</td>
<td>Both</td>
<td>Many (5-10)</td>
</tr>
<tr>
<td>Narrow</td>
<td>Operational</td>
<td>Few (1-4)</td>
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This data illustrates that all partnerships that focus on broad services engage a large number of partners (ten or more). Also, all partnerships that only engage a few partners (1-4) are narrow in scope. The reverse is not true however; not all partnerships that address narrow missions engage few partners. Of the 10 partnerships with narrow focuses, five engage few partners, 4 engage many (5-10) and one engages a large number (10 or more). All tasks that focus on services that are between narrow and broad in specificity engage large numbers of partners as well. This data reveals that in general, the more broad the task being performed by a partnership, the larger the number of partners that are involved. This is logical because as the scope of a task increases, the number of people that have stake in that task (stakeholders) should increase. It should be a goal of an architect to include as many stakeholders in a partnership as possible for both productivity and sustainability reasons. This finding is not explicitly stated in any of the privatization literature referenced in this study, but seems to be a logical conclusion that could be made about all partnerships, not just ones that focus on providing EPER services.

6. Partnerships with an exclusively narrow, operational focus tend to be seen in response stage of EPER. Partnerships with an exclusively broad, managerial focus tend to be seen when the partnership addresses both the preparedness and response stages of EPER.
Table 5.11: Focus of Task and Stage of EPER

Of the 9 response and recovery oriented partnerships, all are operational partnerships with narrow focuses and missions (except for the Red Cross CAN partnership). This is not a surprising result. The nature of response services are that they tend to be location specific and address more specific immediate needs of the general public or damaged infrastructure. Thus, for many response partnerships, acting operationally—as opposed to managerially—should be expected.

It is interesting that the three exclusively managerial partnerships discovered through this research all address both stages of response—preparedness and response. In other words exclusively managerial tasks, with no operational component, only surface for partnerships that address all stages of response. This is logical due to the enlarged missions that come along with addressing multiple stages of EPER. By addressing several stages of response, acting operationally becomes more difficult as the focus is to large; therefore, one would expect managerial partnerships to emerge for partnerships that broadly address all stages of response. There are two

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<th>Ptnship Name</th>
<th>SPN partnership</th>
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<th>Sharing</th>
<th>ESR Project Impact</th>
<th>RCLC</th>
<th>BRT</th>
<th>NIPP</th>
<th>MRC</th>
<th>IC</th>
<th>Comm.</th>
<th>Tech. Assistance</th>
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<th>Katrina Call Center</th>
<th>Office Depot</th>
<th>Abbott Contributions</th>
<th>Tyson’s Dist. Relief</th>
<th>Aid Maunx Project</th>
<th>A2H Disaster Relief</th>
<th>Red Cross CAN</th>
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**KEY**
- **Stage of EPER**: Recovery, Response, All, Preparedness
- **Focus of Task**: Managerial, n/a, Both, Operational
- **Specificity of Service**: Broad, n/a, Middle, Narrow
partnerships—the MRC and the Local Incident Command—that address both stages of EPER but are operational. This is due to the narrow missions of those partnerships despite their efforts to address issues in both stages of EPER. On the other hand, the three exclusively managerial partnerships have very broad missions in their attempt to address all stages of response.

The three preparedness partnerships (SPIN, DNC, and Regional Info Sharing) categorized as ‘both’ for focus of task include both operational and managerial services however. Thus, another insight is that no managerial tasks surfaced for exclusively response services; there are managerial components of some preparedness services, but there are no managerial components for response services. This is not surprising either. In response, partners have a pretty good idea of what they are dealing with and how to operate accordingly. However, in preparedness, there is still a huge speculative function since what to prepare against is not an exact science. Therefore, one would expect to see managerial as well as operational tasks in preparedness services in order to address issues in strategy and implementation.

**7. Partnerships that provide response services utilize formal tools.**  
Partnerships that provide preparedness services do not use formal agreements.
According to the data, there are no formal or informal agreements used when designing partnerships for preparedness. This includes partnerships that address all stages of EPER. It is only during the response and relief partnerships where contracts are signed, grants are awarded, or informal privacy agreements are utilized. Two partnerships utilize informal agreements in their partnership framework. The Red Cross has members sign privacy agreements agreeing not to share client data and America’s Second Harvest (A2H) signs contracts with several food companies in order to ensure continuity in the donations of their relief effort. The three partnerships that utilize formal tools are better developed partnership types: contracts and a grant.

This data shows that formal and informal agreements are more common in response partnerships. This is most likely because of the nature of response partnerships. Since response partnerships are activated after an emergency has occurred, the partners know that situation they are dealing with and are able to act accordingly. Response partnerships tend to be more operational in nature and have more narrow missions; since the services provided are highly specified, they are easier to write into a contract. On the other hand, preparedness services are fraught with uncertainty and often try to accomplish relatively larger missions, making contracts even more difficult. For partnerships that address both stages, missions often become even larger and thus these partnerships would be the most difficult to use formal and informal tools. This is a clear relationship between a decision an architect can make about what tools to use to format the partnership and the stage of EPER that the partnership is meant to address.

8. Partnerships that provide preparedness services tend to address the entire spectrum of possible severity outcomes, whereas partnerships that provide response and recovery services vary in the severity of harm they address.
This data reveals primarily that preparedness services address the entire range of severity outcomes whereas response services tend to address a subset of that range. This is logical because of the uncertainty in the preparedness function. On the most part, preparedness efforts address the range of severity outcomes because any given event that they are preparing for can have a range of severity outcomes. Preparedness partnerships are consistently active before an emergency and thus don’t have a severity outcome to trigger their activation. On the other hand, response services become operational after an emergency occurs and the severity is known. Therefore response partnerships have the luxury of being able to choose when to respond since severity is a known variable. For preparedness, severity is unknown and can therefore not be a design choice by the architect. Response partnerships can chose to respond to the entire range of severities—like the Aid Matrix, NIPP and Localized Incident Command.
Command do—but the point is they are able to chose, whereas that is much more difficult for preparedness partnerships to do.

9. Partnerships that provide preparedness services tend to operate before an emergency (ex-ante), and partnerships that provide response services tend to operate after an emergency (ex-post). Partnerships that provide both preparedness and response services tend to operate continuously.

| Partnership Name | SPIN partnership | DNC Partnership | Regional Info-Sharing | ISRI Project Impact | BCLC | BRT | NPP | MRC | Local Incident Comm. | Tech. Assistance | Back 2 Business Wsp | Katrina Call Center | Office Depot Foundation | Abbott Contributions | Tyson’s Disaster Relief | Aid Matrix Project | A2H Disaster Relief | Red Cross CAN |
|------------------|------------------|-----------------|-----------------------|--------------------|------|-----|-----|-----|--------------------|------------------|-----------------|-------------------|-----------------------|---------------------|--------------------|-------------------|-------------------|----------------|----------------|
| Stage of EPER    |                  |                 |                       |                    |      |     |     |     |                    |                  |                 |                   |                       |                     |                   |                   |                   |                |               |
| Activation Period|                  |                 |                       |                    |      |     |     |     |                    |                  |                 |                   |                       |                     |                   |                   |                   |                |               |
| Structure        | public-private collab. | public-private collab. | public-private collab. | partnership | facilitated collaboration | public-private collab. | public-private collab. | public-private collab. | public-private collab. | public-private collab. | public-private collab. | public-private collab. | public-private collab. | contract | public-SAO | private collaboration | private collaboration | private collaboration | private collaboration | private collaboration | private collaboration | private collaboration |

This conclusion is a natural result of the definition of these two attributes. ‘Stage of EPER’ describes the stage of the emergency management effort that a partnership is operating within. ‘Activation Period’ describes the period, around the emergency itself, that a partnership is activated and operational. It is clear from the data that (1) a partnership that addresses preparedness services will operate ex-ante—before an emergency (2) a partnership that addresses response will operate ex-post—after an emergency and (3) a partnership that addressed all stages of EPER will operate continuously.

The exception is the Local Incident Command. This partnership addresses both stages of EPER but is only active after the emergency. This may seem
counterintuitive. However, the preparedness service for this partnership is merely a tour of the company’s facilities for the fire department. The operational phase of the partnership, where plans are carried out and the partners interact as the partnership intended, is in response. This partnership was created by a large corporation in the Midwest and the fire department in order to make the fire fighters job easier in the event of an emergency and to prevent as many losses as possible to the company by expediting the response process. In order to achieve these goals, there are a few preparedness services that are implemented, but they are hardly frequent enough to classify this partnership as continuous.

10. Partnerships that operate before an emergency (ex-ante) do not exist for large scale anticipated disasters. Partnerships that operate continuously tend to be created for anticipated emergencies of national geographic scope.

<table>
<thead>
<tr>
<th>Partnership Name</th>
<th>BCLC</th>
<th>BRT</th>
<th>NIPP</th>
<th>MRC</th>
<th>ADH Disaster Relief</th>
<th>Aid Matrix Project</th>
<th>Red Cross CAN</th>
<th>Kefains Cull Center</th>
<th>Office Depot Foundation</th>
<th>Tyson’s Disaster Relief</th>
<th>Back to Business Wisconsin</th>
<th>Abbott Contributions</th>
<th>Regional Info Sharing</th>
<th>SPIN partnership</th>
<th>Techn. Assistance</th>
<th>DNC Partnership</th>
<th>ESRI Project Impact</th>
<th>Local Incident Command</th>
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<tbody>
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<td>Activation Period</td>
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<td>Stage of EPER</td>
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<td>Geo Scale of Emergency</td>
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</table>

**Table 5.15: Stage of EPER and Geographic Scale**
From the table it is apparent that all ex-ante partnerships address exclusively the preparedness stage of EPER. Similarly, ex-post partnerships address exclusively the response and/or recovery stages of EPER. Continuous partnerships tend to address all stages of EPER. Preparedness partnerships that act exclusively before an emergency (ex-ante) do not exist at anticipated geographic scales for the emergency that are larger than a state. On the other hand, response partnerships that are exclusively active after an emergency (ex-post) exist on the entire range of geographic scales. Partnerships that are continuously operating and thus provide both preparedness and response services before and after an emergency, act exclusively at a level where the largest geographic scale of emergency that is confronted is national.

Therefore, continuous partnerships address the widest range of geographic scales whereas exclusively ex-ante partnerships address the smallest range of geographic scales. This result is difficult to explain. It is apparent from the data that there is a link between when the partnership operates and the geographic scale of an emergency that the partnership intends to address. Why preparedness services that operate before an emergency are more common for small scale anticipated emergencies is unclear. Also, why continuously operating partnerships that address preparedness and response both before and after an emergency exist only for anticipated emergencies of national scope is unclear as well. The later may be true due to difficulties in maintaining the capacity to respond to incidents of national scope; the continuous partnerships—BCLC, BRT, NIPP and MRC—are constantly active in order to remain prepared to respond at a range of scopes.

11. Partnerships that address only natural hazards tend to equally share all information. Hazards involving man-made threats may deal with sensitive information if the information is less evenly shared.
Table 5.16: Type of Emergency and Sensitivity of Information

Since there is only one case study that addresses exclusively man-made incidents, the data can not be conclusive about how this type of emergency relates to information issues. However, for all of the partnerships that address exclusively natural disasters, the information required to operate the partnership is all public domain and all partners share that information equally. For all-hazards partnerships, the sensitivity of information varies and is not always equally shared among partners. One would expect the most sensitive information to be utilized for man-made threats since much of the information used in countering events like terrorism is highly sensitive classified intelligence. Information about natural disasters is much less sensitive and generally accessible.
This conclusion is interesting because it sheds light on the ease of operation in a partnership. Uneven information sharing will inevitably pose problems between partners. This can be due to difficulties setting up platforms for information sharing, trust issues that emerge when information is withheld, and operational difficulties when different partners are privileged to different information. Therefore uneven information sharing should only be intentionally selected by an architect if the sensitivity of the information warrants it. From this data one can assume that information issues should not pose problems for partnerships that address exclusively natural disasters, but should be considered for all hazards partnerships and potentially those that address only man-made incidents as well.

12. Large scale disasters are paired with partnerships for national services, and point disasters are paired with partnerships for small scope services.

| Partnership Name | BCLC | BRT | NIPP | MRC | AH Disaster Relief | Aid Matrix Project | Red Cross CAN | Katrina Call Center | Office Depot Foundation | Tyson's Disaster Relief | Back to Business WikiShop | Abbott Contributions | Regional Info Sharing | SPIN Partnership | Tech Assistance | DNC Partnership | ESR Project Impact | Local Incident Command |
|------------------|------|-----|------|-----|-------------------|-------------------|---------------|---------------------|------------------------|-----------------------|------------------------|--------------------|-------------------|-----------------|----------------|----------------|------------------|
| Scale of Service | | | | | | | | | | | | | | | | | | |
| Geo Scale of Emergency | | | | | | | | | | | | | | | | | | |

Table 5.17: Scale of Service and Geographic Scale
One would expect the scale of the service to reflect the scale of the disaster that service is trying to confront. This data shows a clear relationship between the scale of the service being provided and the scale of the emergency. In only two cases do the two attributes not mirror each other: MRC and Back to Business Workshops. These partnerships are exceptions because their architects chose to organize their implementation components on a smaller scale than the disaster itself. For the Medical Reserve Corps (MRC) volunteers are recruited and deployed on a city-by-city basis. An event might affect an entire state or region, but then several city MRCs would become operational. The implementation unit is smaller than the event unit in the case in order to ease response coordination. In the wake of hurricane Katrina—a regional event—the Back to Business Workshops were provided in three different cities in the south east. Because the product was a workshop that had to be given at a specific location, these workshops were organized at the city level. Thus for these two examples, in order to ease implementation, the architects of the partnership chose to reduce the unit for the scale of service.

In every other case however, the scale of service (the level at which the service is implemented or coordinated) exactly matches the geographic scale of the anticipated emergency. Thus, one would expect to see a state level partnership to address the state level problem of tornados in the Midwest and a regional level partnership to address the regional problem of hurricanes in the south east, for example.

5.2.4 New, Counter-Intuitive Conclusions

In addition to the new, expected conclusions, there are also some conclusions that were expected, but not found in the patterns and trends.

1. There is no correlation between the stage of EPER and the degree of information sharing or the sensitivity of information.
<table>
<thead>
<tr>
<th>Ptship Name</th>
<th>SPIN partnership</th>
<th>DNC Partnership</th>
<th>Regional Info Sharing</th>
<th>ESRI Project Impact</th>
<th>BCLC</th>
<th>BRT</th>
<th>NIPP</th>
<th>MRC</th>
<th>Local Incident Command</th>
<th>Tech Assistance</th>
<th>Back 2 Business Wrap</th>
<th>Katrina Call Center</th>
<th>Office Depot</th>
<th>Abbott Contributions</th>
<th>Tyson’s Disaster Relief</th>
<th>Aid Matrix Project</th>
<th>AJH Disaster Relief</th>
<th>Red Cross CAN</th>
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</thead>
<tbody>
<tr>
<td>Stage of EPER</td>
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<tr>
<td>Sensitivity of Info</td>
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</table>

**Table 5.18: Stage of EPER and Sensitivity of Information**

It is often believed that preparedness services deal with more sensitive information than response services. Therefore, one would expect to see a relationship between the stage of EPER and the sensitivity of information used in the partnership. However, this data does not definitively reveal that conclusion. Two of the four preparedness partnerships deal with sensitive information. Two response partnerships (out of 9) also deal with sensitive information. The partnerships that deal with sensitive information—Technical Assistance Contract and Red Cross CAN—are not dealing with highly sensitive intelligence information. Red Cross CAN is dealing with client privacy issues and the Technical Assistance Contract is concerned with the proprietary information of the contractors. Therefore, the sensitive information found in preparedness partnerships is relatively more sensitive than the information found in response partnerships, but not all preparedness partnerships deal with highly sensitive information. This data therefore shows the presence of sensitive information in preparedness partnerships, but it is not related as strongly as one might believe.
2. There is no correlation between the scale of the service and the specificity of the service and the focus of the task.

Table 5.19: Focus of Task and Scale of Service

These three attributes are all functional—meaning they should be pre-determined based on the service a partnership is trying to provide. One would expect the scale of a service—how large the area of potential beneficiaries and operations is—to be linked to how narrow or broad the task being performed is. This relationship would seem to be logical at first, however the data reveals an interesting reframing of that observation. According to the data, operational as well as managerial tasks can be national in scope. Managerial tasks tend to be exclusively national, but operational tasks run the range of scales. Therefore, extremely broad missions may affect the scale of service, but narrowness does not imply that the scale need be any smaller. As long as a mission/service is well defined, then it can scale up to many levels is the partnership has the operational capacity. Thus, how high up a partnership scales is not a function of how narrow the task is, but may be a function of how much capacity the partnership has.
partnership has to scale up. It is interesting that while narrowness does not lead to any conclusions about the scale of service, the broadness does. It is logical that partnerships with very broad missions that tend to be managerial—providing best practices as an intermediary—would tend to be operated at a national scale in order to involve the most partners for collaboration and information sharing.

5.2.5 New, Weak Conclusions

In addition to the expected and counter-intuitive conclusions this research discovered, there are also several conclusions for which a convincing argument can be made, but sufficient data is not present to convincingly support it. Thus, the following conclusions are promising with a larger data set, but are not as strong as the previous new conclusions.

1. Partnerships that have a broad, managerial focus have emerged in the last few years.
<table>
<thead>
<tr>
<th>KEY</th>
<th>Start Date</th>
<th>Focus of Task</th>
<th>Specificity of Service</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2002-present (post DHS)</td>
<td>Managerial</td>
<td>Broad</td>
</tr>
<tr>
<td></td>
<td>2000-2002 (Pre-DHS)</td>
<td>Both</td>
<td>Middle</td>
</tr>
<tr>
<td></td>
<td>1990’s</td>
<td>Both</td>
<td>Narrow</td>
</tr>
<tr>
<td></td>
<td>1980s</td>
<td>Operational</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 5.20: Start Date and Focus of Task

Of the 11 operational partnerships, four were initiated in the 1980s and 1990s. There were no managerial partnerships initiated during the same time frame according to the data set used for this study. Operational partnerships, however, have been consistently created over the last 30 years. Therefore, managerial partnerships may be seen as a ‘newer’ form of partnership that began in 2003 with the NIPP. The National Infrastructure Protection Plan (NIPP) laid out a framework for the private sector to begin coordinating within relevant infrastructure sectors in order to improve overall preparedness. This federal level EPER partnership was ultimately borne from the creation of a new Department (Department of Homeland Security) after September 11, 2001. This event brought a lot of focus on the capacity of the federal government to prepare for and respond to disasters; Hurricane Katrina in 2005 then reinforced this focus.

Therefore, in 2006, in the wake of Hurricane Katrina, the Business Roundtable (BRT) and the BCLC both created taskforces that would provide a means for the private sector to interface with the federal government in the realm of EPER. The BRT and BCLC were both created to be intermediaries between the large federal government EPER operation and vulnerable and interested private sector partners. These types of intermediaries were not needed until federal EPER services were fully concentrated in a new government bureaucracy. Therefore, it is logical that over time an intermediary function would emerge as an essential EPER task. It is thus a hypothesis of this study that the emergence of DHS as a federal warehouse of all public EPER services encouraged the emergence of broader and more managerial EPER partnerships in the 2000s.

2. Partnerships that have a broad, managerial focus with a broad focus and a managerial approach address emergencies that are national in scale.
Table 5.21: Geographic Scale of Emergency and Focus of Task

All of the managerial partnerships studied explicitly focus on events that are of national scale. The ‘nation’ category is inclusive of all of the other scale degrees: region, state, city and point. Thus, these managerial partnerships have the largest range of geographic scale as well. These partnerships are thus designed to be able to handle local emergencies as well as one with national significance; thus it is not surprising they are managerial in nature since one of their most important services is developing best practices to be applied at any scale of emergency.

However, there are four partnerships—MRC, A2H, Aid Matrix, CAN—that also strive to address the full range of geographic scopes, but are more operational in nature. These have much more narrow missions than the managerial partnerships however. The NIPP, BRT and BCLC all act as disseminators of information for their partners and many types of services are then provided under that umbrella. MRC, A2H, Aid Matrix, and CAN all have specific services that they strive to provide at a
national level, respectively: (1) provide medical support for response efforts; (2) distribute food to affected areas in the response effort; (3) track donations in order to eliminate duplication and confusion post-emergency and; (4) coordinate NGO client data after an emergency. Therefore, for narrow missions, operational services can exist for emergencies of national scope. The main insight from this data is that managerial services do not exist for scales that are not inclusive of national events. Therefore, managerial services tend to be created for emergencies of the largest possible scale and range of scales.

3. Early on, all partnerships were collaborative in communication. As time has passed, some remain collaborative but top down and mixture modes have emerged as well.

<table>
<thead>
<tr>
<th>Partnership Name</th>
<th>Local Incident Command</th>
<th>ACH Disaster Relief</th>
<th>Office Depot Foundation</th>
<th>ESRI Project Impact</th>
<th>Tyson's Disaster Relief</th>
<th>Red Cross CAN</th>
<th>SPIN partnership</th>
<th>MRC</th>
<th>DNC Partnership</th>
<th>NIPP</th>
<th>Aid Matrix Project</th>
<th>Tech. Assistance</th>
<th>Regional Info Sharing</th>
<th>Abbott Contributions</th>
<th>Katrina Call Center</th>
<th>Back to Business Workshops</th>
<th>BRT</th>
<th>BCLC</th>
</tr>
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<tbody>
<tr>
<td>Start Date</td>
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<td>Type of Interaction</td>
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<tr>
<td>Structure</td>
<td>public-private collab.</td>
<td>private collaboration</td>
<td>public-private collab.</td>
<td>private collaboration</td>
<td>public-private collab.</td>
<td>public-private collab.</td>
<td>public-private collab.</td>
<td>public-private collab.</td>
<td>Grant</td>
<td>Contact</td>
<td>public-private collab.</td>
<td>public-private collab.</td>
<td>private collaboration</td>
<td>Contact</td>
<td>Public SAO</td>
<td>facilitated collaboration</td>
<td>facilitated collaboration</td>
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**Table 5.22: Start Date and Type of Interaction**

The fact that partnerships operating under top-down communication structures did not emerge until 2002, according to these case studies, is not surprising. After September 11, 2001 and again after Hurricane Katrina in October of 2005, several
partnerships emerged that chose this type of communication dynamic. However, there were several partnerships that emerged post 9-11 that chose not to embrace a top-down communication model, but a collaborative one. Of the three partnerships created post 9/11 to provide goods to affected areas after a disaster (Tyson’s Disaster Relief, Aid Matrix, Abbot Contributions), only one is top-down. Therefore, the observation is not that 9/11 and Hurricane Katrina influenced completely the nature of communication. Instead, it is observed that before these events, that type of communication did not exist at all.

It seems that top-down and mixture (both top-down and collaborative components present) communication methods have been emergent ways to operate EPER partnerships. It may appear that top-down communication methods are somewhat antiquated and may be a step back. Accepted methods for operating partnerships tend to move in cycles however. This is illustrated by many Public Private Partnerships for public infrastructure over the past 30 years. There have been cycles, lasting approximately 10 years, which shift preferences between complete private operation, complete public operation, and collaborative arrangements. Thus, it is not surprising that preferred methods for communication would cycle as well—especially after events where communication failures were perceived as one of the largest reasons the response was flawed. Top-down communication is not optimal for all partnerships and may affect sustainability, but in the face of high-pressure high-consequence emergency situations, a direct and clear chain of command may be the most desirable communication structure in some cases.

5.3 Conclusions

The following boxes display a summary of the conclusions found in this research:
CONFIRMATORY CONCLUSIONS
1. The formal tools used to provide a service influence the partnership’s structure. Contracts and Grants tend to use formal agreements, whereas informal agreements show up in collaborative structures.
2. The motivational attributes influence the partnership’s structure. The sectors that possess the motivational attributes will be a factor in which structure is appropriate.
3. The motivational attributes influence the sectors chosen to be partners and those sectors that are beneficiaries or stakeholders. For the services that are primarily private in operation, funding and responsibility, the private sector becomes the main partners.
4. Partnerships with a narrow focus tend to be more operational in nature; partnerships with a broad focus tend to be more managerial.
5. Partnerships with a broad focus do not use formal tools. The more narrow the focus, the more likely it is a contract or other legal agreement may be used.
NEW EXPECTED CONCLUSIONS
1. Partnerships addressing events that effect people tend to be owned, operated, and financed by the private sector.
2. Operational partnerships tend to be led by either one coordinator or a few key decision makers. The more managerial the partnership, the more likely a board is to be involved in the leadership.
3. Partnerships with a narrow, operational focus and tend to use top down communication models. Collaborative communication models are used for both narrow, operational and broad, managerial focuses.
4. Partnerships with a broad, managerial focus tend to operate continuously. Partnerships that operate exclusively before or after an emergency tend to have a narrow, operational focus.
5. Partnerships with a broad focus involve larger numbers of partners. Partnerships with a narrow focus involve fewer numbers of partners.
6. Partnerships with an exclusively narrow, operational focus tend to be seen in response stage of EPER. Partnerships with an exclusively broad, managerial focus tend to be seen when the partnership addresses both the preparedness and response stages of EPER.
7. Partnerships that provide response services utilize formal tools. Partnerships that provide preparedness services do not use formal agreements.
8. Partnerships that provide preparedness services tend to address the entire spectrum of possible severity outcomes, whereas partnerships that provide response and recovery services vary in the severity of harm they address.
9. Partnerships that provide preparedness services tend to operate before an emergency (ex-ante), and partnerships that provide response services tend to operate after an emergency (ex-post). Partnerships that provide both preparedness and response services tend to operate continuously.
10. Partnerships that operate before an emergency (ex-ante) do not exist for large scale anticipated disasters. Partnerships that operate continuously tend to be created for anticipated emergencies of national geographic scope.
11. Partnerships that address only natural hazards tend to equally share all information. Hazards involving man-made threats may deal with sensitive information if the information is less evenly shared.
12. Large scale disasters are paired with partnerships for national services, and point disasters are paired with partnerships for small scope services.

NEW COUNTER-INTUITIVE CONCLUSIONS
1. There is no correlation between the stage of EPER and the degree of information sharing or the sensitivity of information.
2. There is no correlation between the scale of the service and the specificity of the service and the focus of the task.
This chapter described the case studies collected as data for this analysis and explained the patterns that those case studies illustrated. Chapter 6 will build on the conclusions described in this chapter in order to articulate the implications of these findings for EPER partnership architects and policy makers.

**NEW WEAK CONCLUSIONS**

1. Partnerships that have a broad, managerial focus have emerged in the last few years.
2. Partnerships that have a broad, managerial focus address emergencies that are national in scale.
3. Early on, all partnerships were collaborative in communication. As time has passed, some remain collaborative but top down and mixture modes have emerged as well.
Works Cited


CHAPTER 6: Implications for Architects and Policy Makers

6.1 Overview

The findings detailed in chapter 5 outlined twenty-two correlations that were identified from the case study analysis on partnerships for emergency preparedness and response (EPER). These correlations offer some interesting insights for EPER partnership architects. When faced with an emergent EPER service, how should a partnership be structured to provide that service? Does the nature of the service that is being provided influence service provision? Depending on the emergencies that a service is trying to confront, will partnership structures also depend on event attributes? Are there any lessons from this analysis, based on past partnerships, which can shed light on how to best set up a partnership? This chapter will address these questions and inform architects and policy makers about the implications of these findings on their tasks as emergency managers.

The overall correlations between the functional, event and structural attributes will be illustrated. Then these correlations will be presented and described in a decision chart form for architects. Ultimately, this chapter hopes to present the key findings from this research as applicable to designing EPER partnerships.

6.2 Important Attribute Relationships for Architects

In chapter 5, the relationships between individual attributes, as represented by the data, were discussed. This chapter relates those correlations to decisions that architects can make when designing an EPER partnership.

![FIGURE 6.1: Framework for Architecting EPER Partnerships](image)

**Figure 6.1** describes the overall framework being explored in this study. Functional and Event attributes are assumed to be determined by the service the
partnership is providing; the architect cannot readily make decisions that influence these attributes. Thus these attributes resemble independent variables. On the other hand, the structural attributes are determined by the decisions of the architect and are thus the variables that must be described in terms of what independent variables influence them. Which functional and event attributes should influence the structural decisions of the architect? These relationships can be visualized with an N-squared matrix.

**FIGURE 6.2: N-Squared Matrix for Attribute Relationships**

Figure 6.2 shows the relationships between all twenty-two attributes. Some of the areas enclosed in the figure show how various groupings of attributes relate to
other attributes in their same classification: triangle A shows how structural attributes relate to each other; triangle D shows how functional attributes relate to each other and; triangle F shows how event attributes relate to each other. Square B highlights which event and functional attributes are related to one another. The two boxes that remain—B and C—relate functional and event attributes, respectively to structural attributes. Thus, those boxes—B and C—offer the most wealth of information in terms of informing architects about decisions they can make about how to structure a partnership based on the service they are trying to provide.

The black squares represent correlations that were found in the data and indicated in privatization literature, or ‘confirmatory conclusions’ as discussed in chapter 5. The grey squares represent correlations that are relatively novel, or ‘new conclusions’ as discussed in chapter 5. The crossed out boxes represent correlations that were expected to exist, but the data did not show a relationship. Finally, the existence of a white square does not imply that there is not a relationship between those two variables; the limited data set of this research very well could have overlooked some other important relationships. Thus, this study will comment on the significance of the relationships that were found with the case studies, not relationships that were not.

Though this figure adequately illustrates the general clumping of relationships between attribute categories, the relationships between individual attributes can be illustrated in other ways. **Figures 6.3 through 6.5** show the how the functional and event attributes correlate to the structural attributes by showing individual linkages. Solid arrows represent confirmatory correlations; dotted lines represent new linkages. These figures are a step towards a decision framework that will enable an architect to make decision about the structure of a partnership based on the given functional and event attributes.
This figure illustrates the linkages between the functional and event attributes: those attributes that are independent of the decisions of the architect. This figure shows that there are many interaction effects between these attributes. How these attributes interact to influence the structural attributes is difficult to anticipate since this research does not evaluate the relative strength of each.
of the correlations, only their ‘newness’. Thus, figure 6.3 strives to illustrate the interaction dynamics of the independent partnership variables.

**FIGURE 6.4: Individual Relationships between Structural Attributes**

Figure 6.4 illustrates the internal dynamics between structural attributes. These relationships show how choices made by the architect can influence other choices they must make in structuring the partnership. The interaction effects in this attribute category are, on the most part, well established in literature.
FIGURE 6.5: Individual Relationships between Functional and Event Attributes and Structural Attributes

**Functional:**
- Sectors Rep. by Stakeholders
- Focus of Task
- Specificity of Service
- Authority/ Credibility/ Legitimacy
- Responsibility
- Financing Capacity
- Operational Capacity
- Service Expertise
- Possession of Resources
- Sensitivity of Information

**Event:**
- Type of Emergency Confronted
- Stage of EPER
- Activation Period

**Structural:**
- Structure
- Start Date
- Type of Interaction
- Leadership Structure
- Formal Tools
- Degree of Information Sharing
- Number of Partners
- Sectors Represented by Partners
- Sectors Rep. by Beneficiaries

**KEY:**

- ----- New Correlation
- ____ Confirmatory Correlation

FIGURE 6.5: Individual Relationships between Functional and Event Attributes and Structural Attributes
**Figure 6.5** highlights the relationships between the independent partnership variables (functional and event attributes) and the dependent variables (structural attributes). This figure does not include the functional and event attributes that do not have a correlation to a structural attribute. It is these relationships that offer the most wealth for architects; once a service to be performed is known, the functional and event attributes can be determined and the conclusions found in this study can then be used to make decisions about the structural attributes.

Building off **Figures 6.3-6.5** there is yet another way to illustrate the relationships between attributes. It is difficult to say conclusively in which way the arrows on the connecting lines face; in most cases the relationships are bi-directional. However, it is useful to illustrate in a more concise fashion where the decision points are. **Figure 6.6** illustrates the threads of relationships and decisions that can be made for the relevant attributes. The only attributes included in this figure are those that clearly influence structural decisions, including the overall structure of the partnership. In order to fully explain this figure, each thread will be highlighted as a decision tree and further described. This figure shows nine primary threads that will be discussed:

1. Motivational Attributes → Sectors Rep. by Stakeholders → Structure
2. Formal Tools → Structure
3. Focus of Task/Specificity of Service → Type of Interaction, Leadership Structure, Formal Tools, Number of Partners → Structure
4. Stage of EPER/Activation Period → Focus of Task/Specificity of Service → Formal Tools → Structure
5. Stage of EPER/Activation Period → Formal Tools → Structure
6. Geographic Scale of Emergency (Scale of Service) → Focus of Task/Specificity of Service → Formal Tools → Structure
7. Type of Harm → Motivational Attributes → Structure
8. Start Date → Type of Interaction
9. Type of Emergency Confronted → Sensitivity of Information → Degree of Information Sharing
FIGURE 6.6: Relationship Paths to Structural Decisions
6.2.1 Decision Making Framework for Structuring EPER Partnerships

The following figures and explanations will better describe the paths between the independent partnership variables and the dependent variables. Lines and arrows do not imply a direct and absolute relationship, only a correlation. Just because one attribute’s value is correlated to another attribute’s value does not mean that the correlation is *always* true, just that it was observed in the data. Thus, these figures should not be interpreted as absolute decision rules, but as guides built on emergent patterns observed through historical partnerships.

1. **Motivational Attributes ➔ Sectors Rep. by Stakeholders ➔ Structure**

![Diagram](image)

**FIGURE 6.7: Relating Motivational Attributes to Structure**

This figure represents several general pathways. Path 1 illustrates that if the public sector possesses all of the legitimacy, responsibility, financing capacity, operational capacity, service expertise and resources, the architect usually selects to engage only the public sector and the partnership becomes structured as public supply and operation. On the other hand if the private sector possesses most of the motivational attributes, then the architect is most likely to chose to engage the private sector and NGOs and thus structure the partnership as a private-private collaboration;
this is shown by path 3. Path 2 shows the final option: if the motivation attributes are shared then the entire range of partners are possible to engage and thus any partnership structure could be appropriate, depending on what partners are engaged.

These pathways illustrate the importance of determining what sectors possess the motivational attributes for a service before choosing partners and ultimately the structure for a partnership. This pathway is well understood in privatization literature and is applicable to EPER partnerships as well according to this research. Thus the first lesson for an EPER architect is to determine what sectors should be involved in a partnership by identifying which possess the required legitimacy, financing, operational capacity, resources and responsibility.

ARCHITECTURAL LESSON ONE: Determine what sectors should be involved in a partnership by identifying which possess the required legitimacy, financing, operational capacity, resources and responsibility.

2. Formal Tools → Structure

![Structure Diagram]

FIGURE 6.8: Relating Formal Tools to Structure

These pathways are also well understood in traditional privatization literature and according to this research also apply to partnerships for emergency preparedness and response. Pathway 1 illustrates that formal agreements may only exist for
contracts and grants, not any other EPER partnership structures identified in this research. This follows directly from the definition of a contract and a grant (see section 2.3.1). These structures utilize legal agreements to specify the terms of a partnership—including how much payment will be received by the producer and what degree of service should be provided. Pathway 2 shows the link between the use of informal instruments and private-private collaboration structures. Pathway 3 illustrates that for all structures other than contracts and grants, no formal or informal arrangements may be necessary. The exception of course is that informal agreements are utilized in some cases in private-private collaborations, but in means are they required.

Thus, these relationships show a direct link between two structural attributes that an architect has decision making authority over. Once the formal or informal tools desired are selected, a partnership structure becomes more straight-forward to select. However, the fact that if no agreements are used a wide variety of structures are available, shows that the architect is still allowed a lot of freedom in selecting structures based on the nuances of the service being provided.

ARCHITECTUAL LESSON TWO: Narrow down the options for partnership structure by identifying the types of agreements the partnership will employ between partners.

3. Focus of Task/Specificity of Service ➔ Type of Interaction, Leadership Structure, Formal Tools, Number of Partners ➔ Structure

There are several structural attributes that the focus of task/ specificity of service influences. Thus, this section will identify how this functional attribute, once determined, can help architects to select several structural characteristics for the partnership being created.
FIGURE 6.9: Relating Focus of Task/Specificity of Service to Type of Interaction

Figure 6.9 illustrates how the focus of the task or service being provided by the partnership can influence how the partners will interact throughout the partnership. Once a mission is defined, that mission can be characterized as narrow, middle or broad in scope (specificity of service). Pathway 1 illustrates that narrow missions may be the only scope suitable for top-down communication structures. However, the primary insight is not that operational and narrow partnerships can be top-down, but that managerial partnerships are typically not. Pathway 2 shows that managerial partnerships, due to their more vague nature, would be very difficult to operate in a top-down fashion and are more likely to be either collaborative or have a mixture of both types of interaction.

These pathways reveal that once the breadth of mission is established, how partners should interact throughout the partnership may be determined. For narrow operational missions, this study reveals that any type of interaction may be possible; for broad managerial missions, top-down communication was not seen in the data.

ARCHITECTUAL LESSON THREE: Once the scope of the mission of a partnership has been determined, the way in which partners may interact during the partnership can be determined.
Figure 6.10 illustrates that the focus of the task/specificity of service can also help an architect to specify the leadership structure of the partnership. Pathway 1 illustrates that for this study, narrow operational missions tend to be led by a coordinator or a few key decision makers. This is not surprising; when the task the partnership accomplishes is highly specified it is much more likely and able to be managed by a few key people. Pathway 2 shows that for broad managerial missions, the guidance of a board may also be necessary in order to maintain the strategic component of managerial focuses. Therefore, the key insight in this data set is that as partnerships enlarge their mission and become more managerial, a board may become more necessary to guide the direction of the partnership.

For an architect, this means that once the scope of the mission has been determined, the leadership structure of the partnership may be established based on the experience of previous EPER partnerships.

ARCHITECTURAL LESSON FOUR: Once the scope of the mission of a partnership has been determined, and appropriate leadership structure for the partners may be determined.
Figure 6.11 shows the pathways between the focus of the task and the formal tools appropriate for the partnership. This pathway thus elaborates on the formal tools to structure pathway discussed in Figure 6.8; this second part of the pathway in figure 6.11 is identical to the one discussed in figure 6.8. Pathway 1 above reveals that formal or informal tools may be appropriate only for tasks that are narrow in scope. However, this does not imply that all narrow/operational missions require formal or informal arrangement. For the EPER partnerships studied in this thesis, no other breadth of mission scope was deemed appropriate for formal or informal tools (and thus contract or grant structures) though not all narrow missions required these tools to be provided. This finding is also well discussed in privatization literature and according to this study is also applicable to EPER partnerships.

ARCHITECTURAL LESSON FIVE: Once the scope of the mission of a partnership has been determined, the appropriate agreements between partners may be established which helps to determine the overall structure for the partnership.
Figure 6.12 illustrates how the focus of task/specificity of service can help an architect determine the number of partners to engage in the partnership structure. Pathway 2 reveals that in general, the more broad the task being performed by a partnership, the larger the number of partners that are involved. This is logical because as the scope of a task increases, the number of people that have stake in that task (stakeholders) should increase. It should be a goal of an architect to include as many stakeholders in a partnership as possible for both productivity and sustainability reasons. The narrower the task, as illustrated by pathway 1, the less partners are required to implement the service due to the smaller number of stakeholders. These pathways serve only to give an architect an idea about how ‘big’ their partnership will need to be in order to accomplish the stated mission by bringing all relevant parties to the table.

ARCHITECTUAL LESSON SIX: Once the scope of the mission of partnership has been determined, the approximate range for the number of partners that should be engaged in operating the partnership may be determined.

4. Stage of EPER/Activation Period ➔ Focus of Task/Specificity of Service ➔ Formal Tools ➔ Structure
**FIGURE 6.13: Relating Stage of EPER/ Activation Period to Structure**

*Figure 6.11* illustrated how the focus of task/specificity of service can guide decisions about partnership structure. *Figure 6.13* above shows that there is an event attribute—stage of EPER/Activation Period—that can influence the functional attribute discussed in *figure 6.11*. Pathways 3 illustrates that operational/narrow missions, which are appropriate for formal and informal agreements and are typically structured as contracts or grants, are well suited for response services that act after an emergency. Pathway 1 confirms this correlation between response services and the use of formal and informal agreements: another linkage shown by the data. Pathway 2 illustrates that preparedness services tend to address missions that are ‘middle’ in scope and the partnerships provide both operational and managerial components. Thus, there is no distinctive pathway between preparedness services and structure, as illustrated by *Figure 6.13*. Therefore, the architect has a lot of freedom in making decisions about how to structure these types of partnerships since historical partnerships do not have patterns or trends to offer according to this study’s data set.
ARCHITECTURAL LESSON SEVEN: The stage of EPER to be addressed in the service influences both the focus of the task and the formal tools and therefore may inform the appropriate structure for the partnership.

5. Geographic Scale of Emergency ➝ Focus of Task/Specificity of Service ➝ Formal Tools ➝ Structure

Specific pathways are not listed in figure because the arrows connecting the event attribute—geographic scale of emergency—to the functional attribute—focus of task/specificity of service—all illustrate one point. Managerial services were not seen for scales that are not inclusive of national events. Therefore, managerial services tend to be created for emergencies of the largest possible scale and range of scales. This figure reveals that for all degrees of scope, operational and ‘both’ partnerships exist. However, managerial partnerships only exist, according to the data set, at a national scale. Thus unless and architect is facing a national task, it maybe unlikely that a managerial approach for running the partnership is required.
However, this result offers little guidance for architects in terms of how to structure their partnership. Since no relationships exist between the focus of the task and the formal tools used in the partnership for a managerial/broad mission, there is no linkage to structure. Thus, even though managerial partnerships were only seen for partnerships that address national emergencies, this offers little insight, in terms of structure, for the architect.

ARCHITECTUAL LESSON EIGHT: Once the emergency that is being confronted by a partnership is identified and the geographic scale of its impact is specified, the focus of the task/ specificity of service that results from those categorizations may help to inform structural decisions.

6. Type of Harm ➔ Motivational Attributes ➔ Structure

FIGURE 6.15: Relating Type of Harm to Structure

Pathway 1 illustrates that for partnerships that address events that harm people, the private sector possesses the most motivational attributes and thus provides
the service as a private-private partnership. On the other hand, pathways 2 and 3 show that for events that harm things or both people and things, the motivational attributes are primarily public or shared between the sectors. Therefore for partnerships that address harm to things or both things and people, structures will range from public SAOs (if the public sector possesses the motivational attributes) to collaboration (if the motivational attributes are shared).

Thus, if the architect determines, according to the service they intend to provide, what harm they are trying to prevent, they can be guided by past partnerships in making structural decisions.

ARCHITECTURAL LESSON NINE: The type of harm a partnership intends to address may inform the structure of the partnership.

7. Start Date ➔ Type of Interaction

FIGURE 6.16: Relating Start Date to Type of Interaction

This figure illustrates that over time architects have had a greater range of interaction choices available to them. Before 2000, this study found no partnerships that utilized top-down interaction. Therefore, it seems that top-down and mixture (both top-down and collaborative components present) communication methods may be emergent ways to operate EPER partnerships. Essentially, this finding indicates that architects may have more freedom in selecting interaction structures because there seems to be no clear pattern for success: all do reasonably well. However, figure 6.9 should influence the architect in this decision as well—operational partnerships tend to be more top-down and managerial partnerships tend to be more
collaborative. **Figure 6.16** primarily displays the effect of time on interaction choices and, though a weaker guideline, may offer some insight for the architect as well.

**ARCHITECTURAL LESSON TEN:** Over time, the options for interaction structures between partners may have enlarged, giving the architect relatively more discretion in this structural decision.

8. **Type of Emergency Confronted** ➔ **Sensitivity of Information** ➔ **Degree of Information Sharing**

**FIGURE 6.17: Relating Type of Emergency Confronted to Degree of Information Sharing**

Pathway 1 shows that for partnerships that counter natural disasters exclusively, the majority of the information required to operate the partnership may be in the public domain. Thus, these partnerships are characterized by the even sharing of information with all partners equally informed. According to the data, this is not true for partnerships that confront either man-made or all-hazards events. For all-hazards partnerships, the sensitivity of information varies and is not always equally shared among partners. Therefore uneven information sharing should only be intentionally selected by an architect if the sensitivity of the information requires it. From this data one can assume that information issues should not pose problems for
partnerships that address exclusively natural disasters, but should be considered for all hazards partnerships and potentially those that address only man-made incidents as well.

ARCHITECTURAL LESSON ELEVEN: Once the hazards that a partnership will address are defined, the degree of information sharing present between partners can be established.

These twelve architectural lessons serve primarily to guide an architect in the decision making process required to set up a new EPER partnership. This analysis has revealed that several structural attributes—characteristics that are defined by the architect—have clear linkages to several functional and event attributes—characteristics that are independent of an architect’s decision making process. Therefore, when presented with an EPER service to provide through a partnership, an architect should reference the above lessons in order to utilize historical lessons from EPER partnerships.

These lessons are by no means comprehensive and do not fully describe all the questions an architect should be asking when designing an EPER partnership. All of the attributes studied in this thesis will need to be defined, but some attributes are more open to architectural creativity than others, as illustrated by the relatively few concrete patterns that emerged through this study. This leaves a lot of flexibility for architects in designing EPER partnerships. In general, partnerships are dynamic entities and must adapt to changes in their environment. Thus, the lessons asked above may need to be continually re-evaluated along with other considerations. Figure 6.6 should be seen as a tool that can help EPER architects to be mindful of the relationships between the characteristics of their partnership and several interaction effects.
LESSON ONE: Determine what sectors should be involved in a partnership by identifying which possess the required legitimacy, financing, operational capacity, resources and responsibility.

LESSON TWO: Narrow down the options for partnership structure by identifying the types of agreements the partnership will employ between partners.

LESSON THREE: Once the scope of the mission of a partnership has been determined, the way in which partners may interact during the partnership can be determined.

LESSON FOUR: Once the scope of the mission of a partnership has been determined, and appropriate leadership structure for the partners may be determined.

LESSON FIVE: Once the scope of the mission of a partnership has been determined, the appropriate agreements between partners may be established which helps to determine the overall structure for the partnership.

LESSON SIX: Once the scope of the mission of partnership has been determined, the approximate range for the number of partners that should be engaged in operating the partnership may be determined.

LESSON SEVEN: The stage of EPER to be addressed in the service influences both the focus of the task and the formal tools and therefore may inform the appropriate structure for the partnership.

LESSON EIGHT: Once the emergency that is being confronted by a partnership is identified and the geographic scale of its impact is specified, the focus of the task/specificity of service that results from those categorizations may help to inform structural decisions.

LESSON NINE: The type of harm a partnership intends to address may inform the structure of the partnership.

LESSON TEN: Over time, the options for interaction structures between partners may have enlarged, giving the architect relatively more discretion in this structural decision.

LESSON ELEVEN: Once the hazards that a partnership will address are defined, the degree of information sharing present between partners can be established.

FIGURE 6.18: Summary of Architectural Lessons

6.3 Implications of Findings for Policymakers

In order to fully understand what these findings mean for policy makers, who are also sometimes the architects in EPER partnerships, the current procedures for EPER partnerships must be understood. This section will describe the current US system for EPER partnerships and then discuss what lessons this research can offer policy makers in the future.
6.3.1 Homeland Security Presidential Directives (HSPDs)

Since 2003, there have been two primary HSPDs that have directed the management of emergencies in the United States. HSPD-5 lays out the four life cycle steps of emergency management. President George W Bush specified that in order “to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies, the United States Government shall establish a single, comprehensive approach to domestic incident management. The objective of the United States Government is to ensure that all levels of government across the Nation have the capability to work efficiently and effectively together, using a national approach to domestic incident management. In these efforts, with regard to domestic incidents, the United States Government treats crisis management and consequence management as a single, integrated function, rather than as two separate functions.”

(Bush) Essentially, this directive merges the functions of incident management and response, bringing preparedness and response activities closer—but not completely—together. Additionally, HSPD-5 directly allocated the responsibility of two response functions to the Department of Homeland Security: the development of a National Response Plan (NRP), and the development of a National Incident Management System (NIMS).

This desire to integrate crisis management and consequence management is interesting considering how the federal government has actually operated since HSPD-5. Of the four federally catalyzed partnerships that initiated after HSPD-5 studied in the thesis—NIPP (National Infrastructure Protection Plan), Katrina Call Center, Technical Assistance, and Back to Business Workshops—three only address one stage of emergency management. Only the NIPP is a federally initiated event consequence tool that addresses both preparedness and response and all-hazards. The other three were grants or contracts awarded by the government, post-Katrina, to aid in the relief effort. This illustrates two interesting conclusions: (1) the stated emergency management policy of the US government is not being implemented consistently; and (2) in the face of catastrophic events, many plans and policies will be overruled by immediate and emergent needs.
Later in 2003, HSPD-8 was issued as “a companion to HSPD-5, which identifies steps for improved coordination in response to incidents. This directive describes the way Federal departments and agencies will prepare for such a response, including prevention activities during the early stages of a terrorism incident.” (Bush) HSPD-8 effectively broadened the scope of preparedness functions. According to the directive, “the term "preparedness" refers to the existence of plans, procedures, policies, training, and equipment necessary at the Federal, State, and local level to maximize the ability to prevent, respond to, and recover from major events. The term "readiness" is used interchangeably with preparedness… The term "prevention" refers to activities undertaken by the first responder community during the early stages of an incident to reduce the likelihood or consequences of threatened or actual terrorist attacks. More general and broader efforts to deter, disrupt, or thwart terrorism are not addressed in this directive.” (Bush) Thus, in this directive, deterrence and disruption are not seen as functions of preparedness. In addition to defining the scope of preparedness, this HSPD also directed the Department of Homeland Security (DHS) to develop a National Preparedness Goal and National Preparedness Plan to accompany the National Response Plan.

6.3.2 Federal EPER Tools: NRP, NPP, NIPP, NIMS, ESPs

The National Response Plan (NRP) is a document the Department of Homeland Security developed in response to HSPD-5. “The purpose of the NRP is to establish a comprehensive, national, all-hazards approach to domestic incident management across a spectrum of activities including prevention, preparedness, response, and recovery.”(Department of Homeland Security 2) The NRP, utilizing the NIMS (National Incident Management System), established mechanisms to:
• “Maximize the integration of incident-related prevention, preparedness, response, and recovery activities;
• Improve coordination and integration of Federal, State, local, tribal, regional, private-sector, and nongovernmental organization partners;
• Maximize efficient utilization of resources needed for effective incident management and Critical Infrastructure/Key Resources (CI/KR) protection and restoration;
• Improve incident management communications and increase situational awareness across jurisdictions and between the public and private sectors;
• Facilitate emergency mutual aid and Federal emergency support to State, local, and tribal governments;
• Facilitate Federal-to-Federal interaction and emergency support;
• Provide a proactive and integrated Federal response to catastrophic events; and
• Address linkages to other Federal incident management and emergency response plans developed for specific types of incidents or hazards.”
(Department of Homeland Security 2)

However, this document is not present an adequate policy for how the private and public sectors should partner to improve overall EPER coordination. As illustrated by this study, there are a variety of ways to partner with the private sector in order to provide EPER services, based on the attributes of the service that is being provided. Thus, there is a lot of choice and flexibility for architects and policy makers. However, policy makers should recognize the importance of several attributes in determining appropriate partnership structures. When an all-hazards or integrative crisis and consequence management approaches become the policy of the US government, the policy makers are, in some ways, influencing the structure of partnerships that will emerge. Thus, policy makers should understand the architectural lessons outlines in section 6.2 in order to create policy that does not eventually lead to undesirable structural outcomes.
The National Preparedness Plan (NPP), published in 2005, elaborates on the national preparedness goal. “The National Preparedness Goal is to achieve and sustain capabilities that enable the Nation to collaborate in successfully preventing terrorist attacks on the homeland, and rapidly and effectively responding to and recovering from any terrorist attack, major disaster, or other emergency that does occur to minimize the impact on lives, property, and the economy. This state of national preparedness will be achieved by reaching risk-based target levels of capability, and sustained by measuring readiness and directing resources to areas of greatest risk and need.” (Department of Homeland Security 32) Essentially, DHS presents a model that (1) identifies scenarios that pose the greatest danger to the US; (2) provides guidance to various levels of governments with the capabilities they must develop and maintain to counter those threats; and (3) lists a comprehensive set of tasks that must be performed in all events. This framework essentially sets up mechanisms for the government to interact and be informed, but does not outline a method for interacting with the private sector.

POLICY LESSON THREE: Many federal emergency management policies and procedures outline public responsibilities and tasks, but do not explicitly state roles for the private sector. Without more formally engaging the private sector, emergency management functions may not be optimized.

The National Response Plan (NRP) organizes differently in order to address response services. In the NRP, Emergency Support Function (ESF) groups are developed in order to better organize vulnerable communities to prepare for and respond to a disaster. “The ESFs provide the structure for coordinating Federal
interagency support for Incidents of National Significance. The ESF structure includes mechanisms used to provide Federal support to States and Federal-to-Federal support, both for declared disasters and emergencies under the Stafford Act and for non-Stafford Act incidents.” (Department of Homeland Security ESF-i) These functions are:

- ESF #1 – Transportation
- ESF #2 – Communications
- ESF #3 – Public Works and Engineering
- ESF #4 – Firefighting
- ESF #5 – Emergency Management
- ESF #6 – Mass Care, Housing, and Human Services
- ESF #7 – Resource Support
- ESF #8 – Public Health and Medical Services
- ESF #9 – Urban Search and Rescue
- ESF #10 – Oil and Hazardous Materials Response
- ESF #11 – Agriculture and Natural Resources
- ESF #12 – Energy
- ESF #13 – Public Safety and Security
- ESF #14 – Long-Term Community Recovery and Mitigation
- ESF #15 – External Affairs

Each ESF is coordinated by a government agency and is supported by several other agencies. For example, ESF#8—Public Health and Medical Services—is implemented at the federal, state and local level. Louis Ritter, the St. Johns Country, Florida Emergency Preparedness Planner, described the implementation of this ESF as follows. “In ESF-8 (Health and Medical), public health is generally the lead agency (Health and Human Services (HHS) at the Federal level, Florida Department of Health at the State level, and the local County Health Department within a county Emergency Operations Center (EOC)). We consider ESF-8 a system because we are very reliant on partnerships with other agencies and others from the private sector. ESF-8 support agencies include hospitals, nursing homes, emergency medical system providers, medical equipment distributors, and others. In St. Johns County, the ESF-8 partners meet on a regular basis so that plans can be reviewed (or created) in order to ensure the best response possible and to ensure that we are not duplicating efforts in areas and leaving gaps in others.” (Ritter) Thus, this ESF structure is a federal framework for local and state partnerships addressing various emergency
preparedness and response services that enables, but does not require, the private sector involvement.

Many of the government initiatives described are very large and coordinated at the federal level. This size may be beneficial for some emergency preparedness and response services, but detrimental to others. Whether or not economies of scale can be achieved in these types of service provision is important to consider when setting up national frameworks for their provision. There is no one size fits all solution either. Federal coordination may work as well as local coordination for certain EPER services. As illustrated by the architectural lessons, federal scope partnerships should be set up for services that address national scale emergencies. However, there are many other incident scopes that are historically handled through smaller partnerships. Complex federal level partnerships are not required to provide EPER services as illustrated by this study.

**POLICY LESSON FOUR:** Creating complex federal level partnerships for EPER is not the only option for policy makers, though current national directives lean towards that approach. This study shows that effective partnerships are possible at several scales and that not all of them require government intervention.

### 6.3.3 All-Hazards Environment

Also notable in the U.S. federal strategy for emergency management is DHS’s ‘all-hazards’ approach. The mission of FEMA, as outlined in the Homeland Security Act of 2002, is to “reduce the loss of life and property and protect the Nation from all hazards by leading and supporting the Nation in a comprehensive, risk-based emergency management program.” (Armey) This is important due to the large variety of hazards that the emergency managers must face and the different characteristics of those hazards. As discussed in section 3.1.2.1, natural hazards and terrorist activity differ as sources of emergencies. Is an all-hazards response policy the most effective way to address the spectrum of emergencies the nation faces considering the different characteristics of varying emergencies? This research cannot comment on the relative success of All-Hazards partnerships to partnerships that address only natural or man-
made hazards. However, there are a few conclusions that can be made about the all-hazards nature of the current US policy.

All Hazards partnerships must deal with more sensitive information than partnerships that exclusively address natural disasters. Thus, all-hazards partnerships must also confront difficult information sharing problems that often introduce a technology component into the daily operation of a partnership. By lumping together all hazards into the operation of preparedness and response partnerships, the government introduces a common operational headache: effective information sharing.

POLICY LESSON FIVE: The all-hazards approach to emergency management that the government has adopted introduces more technological uncertainty into the operation of the partnership by complicating information sharing between partners.

6.3.4 Other Critiques of Current US System

The Homeland Security Policy Institute at George Washington University published a report in 2006 touting a new structural paradigm for how emergency preparedness and response efforts should be organized in the United States. They point out several flaws in the current EPER system. “Neither the NRP or the NIMS is a plan, and neither is supported by continuously evolving planning processes; hence, our preparedness and response architecture is incomplete…The nexus for such planning should be at the regional level, with regional contingency plans integrated at the federal level to resolve conflicts, establish priorities, identify shortfalls in resources, and allow for objective assessment of acceptable risk.” (Homeland Security Policy Institute 12-13) With this, the steering committee proposed a rearrangement of how preparedness and response activities are delivered and coordinated by the federal government. They note that since (1) most major disasters are regional, not national, in scope and (2) the federal government is not intended to be or prepared to be a first responder, federal EPER efforts should be organized regionally. Regional offices would not only hold operational responsibilities, but also serve as a regional center for the DHS Preparedness Directorate and FEMA.
They envision regional partnerships with state and local governments, NGOs, and the private sector but do not elaborate on the format of those partnerships. Essentially, they espouse the concept of federalism and believe that a more effective national preparedness and response structure would be regionally—not nationally—based.

This thesis supports the idea that regional partnerships are also desirable and possible for certain EPER services. However, this study would not go as far as constraining all EPER services to a regional scope; flexibility in scope and partners is required in order to optimize partnerships.

**POLICY LESSON SIX:** *Flexibility in the scale and membership in partnerships is important in optimizing the provision of EPER services.*

The Business Executives for National Security (BENS) describe a different way for arranging EPER services through a modification of the current structure to better engage the private sector. They believe that the current structure does not adequately engage the private sector. Currently, many government response efforts are coordinated through state and local EOCs (Emergency Operation Centers). BENS suggests that these centers be complemented with BOCs (Business Operations Centers) to act as a liaison between EOCs and the private sector. These BOCs would ensure that businesses are more involved in planning and the rehearsal of plans, as well as coordinated responses. Furthermore, they recommend that BEMACs (Business Emergency Management Assistance Compacts) be institutionalized so that, in the event of a disaster, mutual aid agreements between businesses will be established to help with the response effort. (Some EMACs—the government version—already exist). Through these additional entities, BENS believes that overall preparedness and response efforts can be improved. (Business Response Task Force 13-20)

**POLICY LESSON EIGHT:** *Engaging the private sector through more formal policies and planning is desirable, but should not become so overly bureaucratic as to discourage private participation.*
As stated previously in this thesis, many of the points the BENS present are valid: the private sector is not adequately involved in formal networks for EPER. However, overly formal networks can also increase the bureaucratic burden on private sector partners. Thus, it is a delicate balance that harnesses the resources and expertise of the private sector and yet continues to remain cost-feasible for those partners. Businesses ultimately are guided by their bottom line and will opt out of partnerships if they become too costly or burdensome as compared to the benefit they receive.

6.4 Areas for Further Research

This research has offered many architectural and policy recommendations based on the results of the case studies performed with many partnerships for EPER. These recommendations have been framed as to advise individuals who impact how
those partnerships are created in order to learn from past experience to create intelligent EPER partnerships. However, this research did not comment on the efficacy of those partnerships studied. Devising a method for evaluating the relative effectiveness of different EPER partnership structures and services is an important contribution to the emergency management field and should be further explored. In addition, this research attempted to identify the role of risk in structuring EPER partnerships. For partnerships that address emergencies and unknown degrees of severity, uncertainties and risks are huge concerns. The interview process of this thesis recorded the risks that the partnerships face but that risk data was not directly analyzed for the purpose of this study. That data is included in Appendix E. Another interesting research question would be to devise a method for illustrating the impact that the high risk environment present for EPER services has on the structuring and efficacy of partnerships. Lastly, and obviously, an expanded data set with more interview data could offer more conclusive trends and patterns. Collecting more interview data and performing the attribute analysis over again could reveal additional insights not found in this study.
Works Cited


APPENDIX A: Privatization Supplements

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**TABLE 1: Spectrum of Public-Private Partnerships for Infrastructure** {44 Savas, E.S. 2000/s241;}

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>Existing Facility</td>
<td>Sale</td>
<td>Private Firm buys facility, operates it under s franchise, and collects user fees</td>
</tr>
<tr>
<td></td>
<td>Lease</td>
<td>Government leases facility to a private firm, which operates it under a franchise and collects user fees</td>
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<tr>
<td></td>
<td>Operations &amp; Maintenance Contract</td>
<td>Private firm maintains and operates a government-owned facility; Government pays private firm a fee</td>
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<tr>
<td>Existing Facility that Requires capital Investment for Expansion or Rehabilitation</td>
<td>Lease-Build Operate (LBO)</td>
<td>Private form leases or buys facility from government, operates it under a concession, and expands or rehabilitates it, collecting user fees and paying a franchise fee</td>
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<tr>
<td></td>
<td>Build-Buy Operate (BBO)</td>
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<td></td>
<td>Wrap-Around Addition</td>
<td>Private firm expands a government owned facility, owns only the expansion, but operates the entire facility, collecting fees</td>
</tr>
<tr>
<td>New Facility to be Built</td>
<td>Build-Transfer Operate (BTO)</td>
<td>Private firm finances and builds new facility, transfers to public ownership, then operates from 20-40 years, collecting user fees</td>
</tr>
<tr>
<td></td>
<td>Build-Operate-Transfer (BOT)</td>
<td>Same as BTO, but facility is transferred to public ownership after 20-40 years</td>
</tr>
<tr>
<td></td>
<td>Build-Own Operate (BOO)</td>
<td>Private firm finances, builds, owns and operates facility and collects fees, under perpetual franchise</td>
</tr>
</tbody>
</table>

**TABLE 2: Models of Infrastructure Privatization** {44 Savas, E.S. 2000/s246;}

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APPENDIX B: Attribute Assessment of EPER Sub-Functions

**Determination of Vulnerabilities**

1. **private sector**
   a. must identify location and time specific vulnerabilities
   b. private sector can identify their own vulnerabilities (infrastructure, supply chain, resistance to natural hazards, etc…) or can contract out that function if secrecy issues can be overcome
   c. must recognize vulnerabilities in their area that may affect their business, their employees or their infrastructure… these may be internal or external and the company ay or may not be able to harden against those threats alone
   d. must work with local businesses/government to identify common vulnerabilities
   e. must be aware of emergent vulnerabilities and work with the government to make sure vulnerability determination is consistent

2. **public sector**
   a. must work to identify government owned vulnerabilities (government buildings, internet, etc…)
   b. must identify national/regional vulnerabilities and trends such as industry concentration, health care infrastructure (for combating influenzas), etc…

**Identify Threats**

1. **private sector**
   a. must remain locally vigilant in terms of potential threats facing their business or supply chain
   b. must communicate threat information to public sector and (potentially) other local stakeholders
   c. determine how ongoing, cyclical or catastrophic threats will affect existing and/or unknown vulnerabilities

2. **public sector**
   a. must identify emergent threats through surveillance and testing
   b. must collect information of a sensitive nature (i.e. terrorism intel) and distribute that information in a timely way to affected parties
   c. must identify regional threats and trends such as emergent terrorism trends and weather patterns
   d. must supplement private work in anticipating how threats will affect various vulnerabilities

**Assess Vulnerabilities/Threats**

1. **private sector**
   a. must evaluate the potential severity of vulnerabilities in the face of threats:
      i. Geographic Effect (Point, Network, Region)
      ii. Time Horizon (Short-term, Long-term)
      iii. Severity of Effects (Minimal, Significant, Catastrophic)
      iv. Nature of Effects (Economic, Loss of Life, Political)
b. Must anticipate threat levels (Theoretical, Imminent, Confirmed) based on shared government information and independent intelligence/assessment

c. Must prioritize these threats/vulnerabilities

2. public sector

a. must evaluate large-scale impact of threats/vulnerabilities (USCAPS and airline industry for example); there is a lot of room for PPPs here

b. must prioritize threat and vulnerabilities in order to determine which to fund/encourage mitigation and determine a method to prioritize those combinations

   i. determine how prioritization and assistance should be allocated: location-based threat-specific, location-based vulnerability specific, risk-based location specific etc…

c. must provide threat assessment information to private sector stakeholders

d. must encourage partnerships that reduce vulnerabilities

**Specific Examples of Activities in this area:**

1. Private Sector Determination of vulnerabilities to act on
   
a. Supply-chain vulnerabilities; build in resilient business practices (multiple suppliers, etc…)

   b. Distinction between internal and external vulnerabilities
      
      i. Internal: affect business as usual, but may not affect other parties

      ii. External: part of a network of affects that influences the way the business can respond—can not necessarily prevent but must be prepared to respond

   c. Dependent on information (intel) from the government

**Provision of Required Resources/Activities/Planning for Prevention/Mitigation**

**Assumptions:**

1. threats have been identified, assessed and prioritized

2. there are some prevention activities involved in this stage and some “emergency preparedness” activities

**Roles and Responsibilities for each sector:**

1. private sector

   a. must create contingency plans that are well communicated to all stakeholders (employees and suppliers especially)

   b. must ensure the safety of employees in order to return to business as usual as quickly as possible (provision of emergency kits, emergency meeting places, etc…)

   c. must establish clear communication channels/hierarchy in the event of an emergency

   d. must work with the government and other private partners to rehearse plans

2. public sector
a. must develop emergency response plans that are distributed to and agreed upon by all stakeholders
b. must effectively communicate updated intel to the private sector to modify SOPs/emergency plans
c. must establish clear communication channels/hierarchy in the event of an emergency
d. must develop plans to ensure the viability, integrity and capability of critical distribution systems (transportation (at state/local level) and communication specifically) which could be contracted out to logistics companies
e. must develop plans for short-term housing/shelter needs
f. must encourage the creation of a flexible and resilient culture with stakeholders (development of robust organization structures, communication networks, supply chains, etc…) by providing incentives to the private sector
g. must work with levels of government and private partners to rehearse plans

Specific Examples of Activities in this area:
1. Creation of SOPs, contingency plans, and chains of command
   a. Function specific that can then be integrated depending on the scenario
      i. Water provision plan, transportation plan, housing and shelters, emergency search and rescue, triage, communications restoration, etc…
      ii. Must anticipate compounding effects when multiple functions are jeopardized
      iii. Develop logistics SOPs including a central command structure with flexibility built in at local level
2. Rehearsals of plans
   a. Logistics planning for activities
   b. Lessons learned accumulation and modification of plans
3. Education of employees and residents
   a. Provision of emergency kits and plans for employees and families (private)
   b. Government efforts to educate a local community about the threats they face

Attributes:
1. Diversity (Range) of stakeholders (business, local government, state government, households, non-profits, etc…)
2. Number of stakeholders/participants (1, 2, 3-5, 5-10, etc…)
3. Scope of beneficiary (business, local population, multiple local populations, state, region, nation)
4. Investment required (time, capital, process change, etc…)
5. Level of coordination required (none, one way communication, two way communication)
6. Frequency of Interaction (never, as needed, scheduled times, continuously, etc…)
7. Duration of Interaction (one time, short term, tong term, etc…)
8. Level of sensitivity of information shared (classified, trade secret, sensitive, unclassified, general knowledge, etc…) aka, level of information asymmetry?
9. Principle Agent Problem?

Implementation of Plans in ANTICIPATION of Emergency

Assumptions:
1. Emergency is anticipated (natural disaster, etc…) and various plans that could be adapted to meet needs of disaster have been rehearsed
2. this is a major prevention stage as well

Roles and Responsibilities for each sector:
1. private sector
   a. must identify appropriate plans and direct employees to follow general EP plans (congregate, evacuate, etc…)
   b. must modify plans if anticipated event demands change
2. public sector
   a. must provide timely information to public and private sector about emergency in order to allow for plans to occur
   b. must establish and communicate the powers of the government in certain disaster scenarios (power to quarantine, evacuations, etc…) and create enforcement mechanisms
   c. notify the general public about steps to take post disaster (Shelters, food distribution locations, etc…)

Specific Examples of Activities in this area:
1. communication between the government and private sector to establish together what types of plans should be implemented to ensure effective coordination
2. private sector communication with employees: steps they should take to mitigate the emergency (activate private sector plans)
3. government communication with affected population: steps to be taken that are consistent with private planning
   a. engage local media as well as the preplanning efforts with private sector to generate flexible plans
   b. modification of current threat level framework
4. Activate government powers to mitigate emergency (quarantine, evacuation, etc…)
5. After being informed of an imminent threat, efforts may be taken to eliminate the threat (stopping a terrorist plot, etc..)

Attributes:
1. Type of emergency confronted (anticipated (natural disaster, accident, etc) or unanticipated (terrorism, etc…))
2. Anticipated consequence (low, medium, high)
3. Level of pre-planning required
4. Regulatory Responsibility

**Implementation of Preparedness/Response Plans During Event**

**Assumptions:**
1. emergency can either be anticipated or unanticipated, but during event there will be certain steps anyone can take to enhance chance of survival
2. Government (at least one level of) can act as a third party, coordinating response during event. However, some parts of the government could become impaired in an emergency.

**Roles and Responsibilities for each sector:**
1. private sector
   a. must identify appropriate plan and activate established plans by having educated individual employees and stakeholders
   b. must ensure that communication channels are enabled and empowered
2. public sector
   a. must communicate immediately with critical partners in communication and transportation infrastructure
   b. must start planning/coordinating for response post-event

**Specific Examples of Activities in this area:**
1. during an emergency, certain activities may be taken to mitigate the aftermath:
   a. coordination of response by identifying plans
   b. initial damage assessment and how that impacts plans, modification of plans to adjust
   c. engagement of experts (government analysts, boards, etc…) to address possible spillover effects
   d. utilization of communication channels/databases developed pre-emergency to identify critical stakeholders
   e. deployment of emergency personnel (health and safety professionals) to scene if safe

**Attributes:**
1. Scope of Emergency (point, multiple point, larger area, city, region, network, etc…) (WTC, Katrina, E coli spinach outbreak, etc…)
2. Duration of Event

**Implementation of Immediate Response/Recovery Plans Post-Event**

**Assumptions:**
1. Emergency can either be anticipated or unanticipated, implementation of response plans/or ad-hoc response post-event will be required in either event
2. This is the initial organization stage. Both urgent activities and network plans are beginning to be coordinated.

**Roles and Responsibilities for each sector:**

1. **private sector**
   a. must identify, implement or develop any appropriate plans within the context of the larger effect of the event
   b. must encourage the safety of employees and family members before carrying out other plans (assisting others, contracted services, etc…)
   c. if critical infrastructure is owned, must become operational as soon as possible in order to enable other response efforts. (these plans are a priority)
   d. must work to quickly and safely get employees back to work
   e. individual assessment of damage relating to business… buildings, employees, extent of damage into supply chain, etc…
   f. timely response of affected insurance agencies

2. **public sector**
   a. must identify appropriate plans and modify for specific event
   b. Prioritize response plans (to provide basic human needs) based on preliminary damage assessment
      i. Emergency search and rescue operations
      ii. Provision of water and sanitation (water sanitation kits, port-a-potties, septic tanks, etc…)
      iii. Ensure provision of emergency medical care
      iv. Provision of emergency shelter for affected stakeholders
   c. Must coordinate response efforts based on established chain of command and plans/SOPs
   d. networked critical infrastructure damage assessment (transportation and communication for distribution) and allocation of resources to most critical areas
   e. assessment of system level, long term needs of citizens and rebuilding by utilizing existing communication networks to acquire damage assessments by private entities

**Specific Examples of Activities in this area:**

1. ensure the focus of emergency workers by protecting family
2. deploying officials as soon as possible to perform a preliminary assessment of actual damage and severity to know to what extent to implement plans
3. once a company has ensured its own short term stability, it is has a responsibility to the general community, it can then activate those plans
4. immediate response by empowered search and rescue entities
5. immediate damage management (fire station to control fire, etc…)
6. Coordination of temporary human needs (shelter, medical care, food, water, etc…)
7. flexible response efforts that are not based on pre-planning

**Attributes:**
1. Sector expertise (public, private, combination of both, etc…)
2. Actual Damage (minimal…catastrophic)

**Short Term Provision/Recovery**

**Assumptions:**
1. relevant plans have been identified and started
2. network effects are beginning to be understood

**Roles and Responsibilities for each sector:**
1. private sector
   a. account for employees to the best of their ability
   b. assist in ensuring the usability of the transportation network for people and goods to get back to business as usual
   c. commit fully to plans and communication networks established before the emergency
2. public sector
   a. Repair power lines (less critical infrastructure)
   b. Provision of emergency food supplies for affected stakeholders
   c. Maintenance of order/rule of law
   d. Assurance of post-emergency safety and security
   e. Provision of other affected critical resources
   f. Logistics management

**Specific Examples of Activities in this area:**
1. private utility companies repairing their infrastructure with the help of other utility companies
2. private sector activation of internal plans and bringing back employees to work as quickly as possible… making their environment “workable”
   a. fix critical damage to buildings
   b. re-connect to critical systems (internet, communication, etc…)
   c. re-secure sensitive areas
3. public sector encouraging the repair of critical infrastructure by throwing money at private operators or donating people to help (national guard, etc…)
4. deployment of security forces (police)
5. mobilization, collection and distribution of critical items (food, supplies, etc…)
6. educating the public about recovery efforts that are taking place (media)
   a. where they can receive critical care, food, water and shelter

**Attributes:**
1. ownership
2. level of coordination required
3. degree of public funds required
4. complexity of task
5. sector expertise
Long-Term Recovery/Rebuilding

Assumptions:
1. these activities are critical to restoration of life as usual, but are not critical in initial stages either due to time constraints or the severity of other issues

Roles and Responsibilities for each sector:
1. private sector
   a. return to business as usual (job creation, infrastructure repair, financial stability, etc…)
   b. development of best practices and lessons learned
   c. The development, coordination, and execution of service- and site-restoration plans for private assets
2. public sector
   a. The development, coordination, and execution of service- and site-restoration plans for government owned assets
   b. Prioritization of rebuilding/repair activities to critical infrastructure (?)—where does this really happen?
   c. Rebuilding/repair of critical infrastructure (?)
   d. Allotment of public funds to support private rebuilding effort

Specific Examples of Activities in this area:
1. individual businesses undergo long term repairs to business (economic, less than critical infrastructure, etc…)
2. reflection of experience: good and bad components of plans, modification of plans and creation of new plans
3. sharing of emergency information, best practices and lessons learned
4. introduction of new regulation
5. public spending to rebuild/recover where private funding and insurance cannot

Attributes:
1. low cost provider/builder… investment opportunities
2. political support
3. sector expertise
APPENDIX C: Interview Questions

1. **General Partnership**
   a. Describe what your partnership does. (2 sentence service provided…)
   b. What is the mission of your partnership?
   c. What is the nature of the task? (Management, Financing, Service provision, technical provision…)
   d. Was this service provided in a different way before the partnership was founded?
   e. When was the partnership established?

2. **PPP Attributes:**
   a. Please describe the stakeholders who have an incentive to participate in the partnership: (business, local government, state government, households, non-profits, etc…)
   b. Who benefits from this partnership and on what scale? (business, local population, multiple local populations, state, region, nation)
   c. How many partners are involved and who are they?
   d. Structure of Partnership: (what are the chains of command, etc…)
      i. What was the catalyst for this partnership? Who started it/backed it?
      ii. What does the leadership of the partnership look like?
         1. president/ceo/coordinator or board
         2. hierarchy or flat
      iii. Describe the governance of this partnership. How are decisions and plans made and who has the authority to make them?
      iv. How is this partnership financed?
      v. Who delivers the service? (which partner?)
      vi. Does this partnership utilize a contract? What type of contract?
      vii. Are there specific performance criteria or other incentives built into the partnership (through a contract, etc…)
      viii. What are the responsibilities of each partner? What does each contribute?
   e. At inception, what were the motivations for partnering with the private sector instead of relying on public provision?
   f. Who is considered the expert in this service provision (public or private sector) and why? Is there much competition in the provision of this service?
g. **Duration of Interaction:** (one time, short term, long term, etc…)
   i. At inception, how long was this partnership intended to last? How long has it lasted and has its time horizon changed? If so, why?
   ii. How do partners interact?
      1. Sporadic interaction (phone calls, ad hoc meetings, etc…)
      2. Scheduled interaction (weekly teleconferences…)
      3. independent (reporting but little feedback…)
   iii. What is the level of coordination between partners?
      1. one way communication
      2. two way communication
      3. other

h. **Level of sensitivity of information required/shared:** (classified, trade secret, sensitive, unclassified, general knowledge, learning and experience knowledge, etc…)
   i. How would you classify the sensitivity of the information that your partnership uses?
      1. public domain
      2. trade secret (business knowledge)
      3. sensitive
      4. classified
      5. TS/intelligence
   ii. Does everyone interact at the same level of sensitivity?

i. **political environment:** (labor situation, privatization theology, budget concerns)
   i. What were potential political concerns in designing this partnership? Did the architects try to address any of them?
      1. labor
      2. theology
      3. budget
      4. intelligence control
      5. other

j. **risk profile:** (what risks do a task face? Political, demand, performance, financial, social equitability, loss of life/infrastructure, etc…)
   i. In creating the partnership, what risks were intentionally addressed?
      1. political
      2. demand
      3. performance
      4. financial
      5. social equity
ii. what are the risks to the partnership now? What keeps you up at night?

iii. In order to complete your task do you rely on other entities supplying critical information/services? If so, what tasks?

3. **EP/ER Attributes**
   a. **Activation period of partnership:** (ex-ante, during, ex-post, or all)
      i. If this partnership is activated at different points, when is that?
         1. ex-ante?
         2. during
         3. ex-post?
      ii. Does the partnership operate differently during different times or phases? What guides the activities in different phases?
   b. **Type of emergency confronted:** (anticipated (natural disaster, accident, etc) or unanticipated (terrorism, etc…))
      i. What types of emergencies does the partnership address?
         1. natural
         2. man made
         3. anticipated vs unanticipated
      ii. Does the partnership address emergencies or more continuous services?
   c. **Scope of Anticipated Emergency:** (point, multiple discontinuous points, large area, city, region, network, etc…)
      i. When looking at the emergencies this partnership deals with, what is the nature of those events? What is the affected geographic area like?
         1. point
         2. multiple point continuous
         3. multiple point discontinuous
         4. large area
         5. city
         6. region
         7. nation
         8. network
      ii. What is the affected area in the value chain? (supply chain, etc…)
   iii. What is the typical duration of the event?
         1. momentary
         2. short (1 min-30 min)
         3. intermediate (30 min-2 hours)
         4. long (2 hours-1day)
         5. extended (1 day +)
iv. What is the nature of the anticipated consequence?
   1. life or quality of life
   2. critical infrastructure damage
   3. economic damage
   4. other

v. What is the anticipated degree of severity of the consequence?
   1. variable
   2. typically low
   3. medium
   4. high
   5. uncertain

vi. What is the probability of this event occurring?
   1. certain
   2. high
   3. etc…

d. **Degree of Uncertainty in Task (known unknowns):** (negligible, considerable, enormous, etc…)
   i. Describe the uncertainties in this EP/ER situation as distinct from those in PPP structure. How does the PPP deal with these uncertainties?

   ii. How does the partnership deal with this variation/uncertainty?

   iii. Is this uncertainty systemic (the nature of what you do) or unsystemic (Able to be addressed with changes in operations)?

e. **Flexibility (unknown unknowns)**
   i. How flexible is your partnership to deal with emergent issues?

   ii. How have you built this into the structure of the partnership, or is it ad hoc?

f. **Stakes**
   i. How high are the stakes of this emergency?
The following three tables show the categorization for all of the partnerships and attributes analyzed in this study.
<table>
<thead>
<tr>
<th>Partnership Name</th>
<th>Back to Business Workshops</th>
<th>Aid Matrix Project</th>
<th>DNC Partnership</th>
<th>BRT</th>
<th>BCLC</th>
<th>Katrina Call Center Contract</th>
<th>Assist Contract</th>
<th>SPIN partnership</th>
<th>Regional Info Sharing Partnership</th>
<th>Local Incident Command</th>
<th>NIPP</th>
<th>MRC</th>
<th>ESRI Project Impact</th>
<th>A2H Disaster Relief</th>
<th>Abbott Products Contributions</th>
<th>Tyson's Disaster Relief</th>
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**TABLE D.1: Case Study Data For Structural Attributes**
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<th>Sectors Rep. by Stakeholder</th>
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**TABLE D.2: Case Study Data For Functional Attributes**
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<th>Geo Scale of Emergency</th>
<th>Stage of EPER</th>
<th>Severity of Harm</th>
<th>Type of Harm</th>
<th>Activation Period of PPP</th>
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**TABLE D.3: Case Study Data for Event Attributes**
## APPENDIX E: Uncertainty Data

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<th>Aid Matrix Project</th>
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<th>Techn. Assistance Contract</th>
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<th>ESRIR Impact</th>
<th>A2H Disaster Relief</th>
<th>Abbott Contributions</th>
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**KEY**
- **Uncertainty Present in Partnership**
- **Uncertainty not Present**