

EMERGENCY MANAGEMENT:

The Relationship Between Harvard University & the City of Cambridge

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Policy Analysis Exercise/Thesis abstract

EMERGENCY MANAGEMENT: The Relationship between Harvard University & the City of Cambridge

The goal of this Policy Analysis Exercise (PAE) is to examine how Harvard University and the City of Cambridge can create the strongest possible security and emergency management relationship. The primary functions examined are the administrative, security, communications and emergency management structures within Harvard and Cambridge. The analysis and recommendations proposed are designed for Harvard's Office of Environmental Health and Safety.

Through interviews, case studies and a literature review, this PAE addresses the evolution of Harvard's emergency management relationship with Cambridge since the terrorist attacks on September 11th, 2001. The study assesses strengths, identifies issues that should be addressed and makes recommendations for improvement. Harvard and Cambridge currently have solid systems in place for cooperation under normal conditions, for notification processes in an emergency, and for the initial response to a crisis. The two have yet to strengthen their relationship to support more rapid resource exchange, seamless first-responder interaction and greater general assistance and awareness. Based on the data collected, this PAE makes four main recommendations, examines potential obstacles, and suggests steps for their implementation. In making these recommendations, this PAE seeks not only to ensure the strongest possible response to a major emergency but also to ensure a long-lasting emergency management structure in the Cambridge community.

The views expressed in this article are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.

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EXECUTIVE SUMMARY

The goal of this Policy Analysis Exercise (PAE) is to examine how Harvard University and the City of Cambridge can create the strongest possible security and emergency management relationship. The primary functions examined are the administrative, security, communications and emergency management structures within Harvard and Cambridge. The analysis and recommendations proposed are designed for Harvard's Office of Environmental Health and Safety.

Through interviews, case studies and a literature review, this PAE addresses the evolution of Harvard's emergency management relationship with Cambridge since the terrorist attacks on September 11th, 2001. The study assesses strengths, identifies issues that should be addressed and makes recommendations for improvement. Harvard and Cambridge currently have solid systems in place for cooperation under normal conditions, for notification processes in an emergency, and for the initial response to a crisis. The two have yet to strengthen their relationship to support more rapid resource exchange, seamless first-responder interaction and greater general assistance and awareness.

Based on the data collected, this PAE makes four main recommendations, examines potential obstacles, and suggests steps for their implementation.

Recommendation 1: Establish Formal Relationships

When responding to a major emergency, Cambridge should draw on all of its available resources, many of which exist in the physical and intellectual capabilities of its major universities. It is crucial that Cambridge can quickly and seamlessly access Harvard's resources, with legal and logistical details settled in advance. The details of this relationship should therefore be formally established where necessary to prevent potential conflicts over legal and financial issues.

Steps for implementation:

1. Draft a Memorandum of Understanding (MOU) between Harvard University and the City of Cambridge that addresses:
 - Incident command and legitimate authorizing issues
 - Resource allocation and categorization
 - Compensation issues
 - Legal and liability issues
 - The role of non-profit organizations (i.e. American Red Cross)

Recommendation 2: Create Resilient Informal Relationships

In situations that do not require formal agreements, informal relationships help guarantee a flexible, resilient emergency management network in Cambridge. In a major emergency, it is crucial that first responders from both local government and universities work together quickly, effectively and seamlessly. Building these relationships now and maintaining them with certain measures will make them sustainable.

Steps for implementation:

1. Increase cross training
2. Strengthen the Local Emergency Planning Committee
3. Increase the quality of full-scale exercises

Recommendation 3: Build General Awareness through Communications Protocols

In emergencies where a single party needs to respond only in its jurisdiction, there still needs to be a general awareness of the other party's actions to ensure that each individual response is as effective as possible. Developing the relationship to this level avoids imposing unrealistic bureaucracies or practices, while establishing an overarching communications protocol.

Steps for implementation:

1. Expand the forum for exchange
2. Establish a central node of communication within Harvard
3. Create a web-based emergency operations center

Recommendation 4: Prevention

Communities with major universities have an asset not only in emergency response but in the research and work that contributes to daily security and public safety efforts. A durable, all-purpose emergency plan should look beyond response towards prevention. Harvard and Cambridge should leverage their relationship beyond emergency response to strengthen the overall homeland security and public safety efforts in Cambridge.

Steps for implementation:

1. Endorse homeland security and emergency management initiatives
2. Increase student involvement
3. Consult on grant-writing and emergency plans

In making these recommendations, this PAE seeks not only to ensure the strongest possible response to a major emergency but also to ensure a long-lasting emergency management structure in the Cambridge community.

September 11th in Cambridge

On September 11th, 2001, the City of Cambridge reacted to a national emergency. Officials in the Cambridge city government had to secure the city, protect its citizens, and gather as much information as possible while the crisis unfolded in New York, Pennsylvania, and Washington D.C. Anxiety was particularly high because two of the planes used in the attacks departed from Logan International Airport in Boston. The police and fire departments were put on alert and the Cambridge City Manager, Robert Healy, called an emergency meeting that began at approximately noon.¹ In addition to learning what they could from the government in Washington D.C., city officials established vulnerabilities in Cambridge and touched base with the police departments of Harvard University and MIT, who represent major segments of the Cambridge population.² With full faith in the capability of the Harvard and MIT police departments to handle the situation in their respective communities, Cambridge officials were able to focus on operations in other parts of the city. Throughout the day, city officials maintained communications with the Cambridge Police Department, Cambridge Fire Department and with university police departments.³

At Harvard, the President of Harvard University, Larry Summers, arranged a conference call with the deans of all Harvard schools and sent a message to the University population.⁴ The Harvard University Police Department secured the school and maintained communication with the local government as the events unfolded. Harvard and other schools in Cambridge remained open as security was "turned up a notch."⁵

The response to the September 11th attacks forced people across the country to test their emergency management systems. Officials from institutions in the public, private and non-profit sectors witnessed first-hand the importance of communications, response plans and interoperability. Communications at Harvard were severely disrupted, as they were all along the East Coast. Land-line phone systems were largely unavailable and cellular phones were jammed. This made coordination among the multiple, largely decentralized, entities at Harvard difficult. The primary respondents were unable to communicate and were forced to act without an understanding of events occurring elsewhere. Fortunately lives were not in danger at Harvard, and responders avoided the negative consequences of having to react without an understanding of a 'big-picture' emergency response plan.

Since September 11th, Harvard has reviewed and revamped its emergency management system, as have most institutions and government agencies throughout Cambridge. Currently, both Harvard and Cambridge have well-functioning emergency management systems that can serve as models for agency interoperability, communications, and technology. The city, however, under utilizes its two major research institutions, which can serve as assets in both homeland security and emergency management.

¹ Commissioner Ronnie Watson, telephone interview, 19 January 2005.

² Ibid.

³ Mayor Michael Sullivan, telephone interview, 20 January 2005.

⁴ Dr. Larry Summers, personal interview, 8 February 2005.

⁵ Captain Gerry Mahoney, personal interview, 10 January 2005.

Introduction

The goal of this Policy Analysis Exercise (PAE) is to examine the relationship between Harvard University and the City of Cambridge with regard to homeland security and emergency management and to identify procedural and organizational improvements. The analysis and recommendations are designed for Harvard's Office of Environmental Health and Safety. Specifically, the PAE examines how the University and local government can best leverage all aspects of the relationship to create the strongest possible security and emergency management structures. The primary functions examined are those of the administrative, security, communications and emergency management structures within the University and the city. Generally, these groups supported a strong working relationship between the University and the local government before 9/11, and have supported it since then.

This PAE addresses how the relationship has evolved, assesses its strengths, identifies issues that should be addressed, and makes recommendations for improvement. It also serves as a case study of the relationship between institutions of higher learning and the public sector. Ideally, similar communities can apply the lessons identified here in creating solid working relationships between educational institutions and local governments that will bolster emergency response efforts. These lessons are most appropriately applied in cities and towns that are similar to Cambridge in terms of emergency response needs. In regions regularly threatened by hurricanes, flooding and earthquakes, emergency responders have a well-developed understanding of how catastrophes and disaster preparedness can galvanize the public-academic relationship and have long understood the role of educational institutions in an emergency.

The potential partnership between the public sector and academia concerning homeland security and emergency management is currently under-represented in the media and scholarly literature. To the extent that it is discussed, it is often in the context of the federal government and its efforts to engage universities in scientific research. Newly established Homeland Security Centers of Excellence at the federal level highlight the myriad benefits of leveraging the relationship between academia and the public sector and advocate for improving the relationship at the local level.

This relationship between local governments and educational institutions is valuable and worth examining more closely. Strong relationships on this level enable stakeholders in both groups to benefit from the diverse physical and intellectual resources each participant offers. Many large colleges and universities experience challenges that are similar to those that the public sector encounters. In emergency planning, both universities and public sector institutions must coordinate the interests of public health, security, and emergency management structures. Since most large academic institutions interact with local government on a daily basis, the potential for them to work together more closely and to learn from one another is immense.

Methodology

The research for this PAE was conducted through a combination of interviews, case studies and organizational analysis. Interview subjects included officials from Harvard University who are directly involved with emergency planning, security, operations, legal affairs and general administration. Local government interviews included officials from the Cambridge City Government, the Cambridge Local Emergency Planning Committee, the Cambridge Fire Department and the Cambridge Police Department. [Appendix A]

Interviews focused on conditions and relationships prior to 9/11, current conditions and relationships, security goals, and the potential for change in the emergency management relationship. The purpose of the interview phase of the PAE was to gain an understanding of:

- Pre-9/11 emergency management structures and relationships
- Changed to this relationship since 9/11, including old efforts that were discontinued and new efforts that were adopted
- Strengths and weaknesses in the current relationship and how they affect emergency management procedures before, during and after a crisis.
- Potential improvements in the public sector-academic homeland security and emergency management relationship in Cambridge.

Information was also gathered through research in communities where large academic institutions work with city governments. These examples, along with information obtained from a literature review of the public sector-academic relationship on the federal level, identify best practices that Cambridge can apply. Finally, this PAE considers federal mandates, state and local statutes, guidelines, structures and organizations that currently exist for homeland security and emergency management in the field of higher education, as well as informal structures that materialize during an emergency.

The Relationship Between Academia and Local Government

The potential for collaboration between universities and the public sector is immense. Given the strong institutional cultures and frameworks that dominate both sides, however, there can be natural and political barriers to cooperation.

The public sector, particularly on the level of first responders, faces the reality of rapidly reacting to unexpected emergencies. Their fast paced lifestyle and day-to-day mindset concentrate on extinguishing a series of imminent 'little fires,' which may inhibit strategic long-term visions, goals, strategies or planning. Furthermore, the public sector must constantly make decisions on how to allocate extremely limited resources. In the aftermath of 9/11, first responders have attempted to streamline daily operations with homeland security objectives but must often focus badly needed resources and time on current demands.

Principles of intellectual development and academic freedom, on the other hand, heavily influence educational institutions. They may therefore oppose certain federal, state, or local regulations or laws that they believe limit their freedom to advance intellectual pursuits. Additionally, colleges and universities must balance government needs and desires with their own security and privacy concerns as they uphold community relations, monitor the activities of students or faculty, and defend their reputations against threats from theft of intellectual capital, cheating, or compromised research. Certain practices or subject material, such as laboratory experiments or student recruitment, can challenge homeland security and emergency management objectives.

In many instances, these fundamental differences manifest themselves as tensions in the daily interaction of public sector officials and university administrators. Public officials face the reality of re-election and must consider the political ramifications of their comments and decisions. Members of academia must maintain their reputations, uphold academic excellence, and compete for tenured positions and may risk criticism from peers and superiors if they 'make waves.'

The potential for collaboration between universities and the public sector is immense.

Although these tensions are largely absent in Cambridge, they are worth examining as general themes that can impair town-gown relations. It is also worth noting that the relationship between Harvard and Cambridge was not always as strong as it is now. It is possible that these tensions still influence the relationship on some level, an issue that should be addressed where it exists. Furthermore, high-level school administrators and city officials may be reluctant to acknowledge these tensions. For example, many individuals interviewed for this PAE were only willing to talk about negative aspects of the relationship between Harvard and Cambridge under the condition that their comments

were made 'off the record.' Fortunately, this does not seem to be a pervasive issue in Cambridge. Over time, personal relationships between extremely qualified and motivated individuals have helped to make Cambridge a model for town-gown relations. Recognizing barriers that have prevented a successful relationship in the past enables the two spheres to develop processes that will ensure continued communication. A shared sense of purpose, trust, commitment and an understanding of objectives facilitate such cooperation and will maintain a sustainable strong relationship.

Figure 1: A Brief Description of Federal Guidelines & Mandates

Various federal guidelines and mandates make up the framework in which Cambridge and Harvard operate. Harvard complies with various federal regulations and laws concerning homeland security and emergency management. The USA PATRIOT Act, the Public Health Security and Bioterrorism Response Act of 2001, the Enhanced Border Security Reform Act, and the Homeland Security Presidential Decision Directive-2 are among the guidelines that direct the University's actions. These laws and regulations "establish new restrictions and guidelines in areas of laboratory security, the processing and administration of foreign student visas, new access to student records and electronic communications, the registration of facilities and individuals handling certain 'select agents,' and restrictions on certain individuals from access to 'select agents.'"⁶

Federal oversight of the international student population expanded following 9/11. For example, universities limited immigrant enrollment and training in "sensitive areas of studies" and the Bush Administration implemented the Interagency Panel on Advanced Science and Security (IPASS) to scrutinize visa requests. The Enhanced Border Security Reform Act (Public Law No. 107-173) required universities to fully implement the Student and Exchange Visitor Information System (SEVIS) by January 30, 2003. SEVIS tracks international students and their dependents and threatens to jeopardize international student admissions and exchange programs if universities are found in violation of the law.⁷

Both Harvard and Cambridge comply with mandates from the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security. (Figure 1) To effectively handle emergencies Harvard developed a Crisis Management Plan (CMP) in September 2002. The CMP focuses on communications management and sets objectives

⁶ http://www.ofr.harvard.edu/homeland_security.php. Harvard University Office of Federal Relations. Accessed 8 February 2005.

⁷ Ibid.

to “protect the health and safety of the Harvard community, preserve academic and intellectual capital, and safeguard vital infrastructure and other physical assets.”⁸ Harvard’s CMP classifies emergencies on three levels. Level 1 is a minor, local emergency; Level 2 is a major incident that disrupts operations at Harvard, significantly threatens public health and safety, or generates significant concerns with the public; and Level 3 constitutes a “disaster with severe impact on the University and/or the surrounding community.”⁹ This PAE focuses on the relationship regarding homeland security and emergency management between Harvard and Cambridge, with particular emphasis on Level 3 emergencies. While these emergencies are rare, planning for them is crucial and must be addressed beforehand.

⁸ Harvard Crisis Management Plan. Published September 2002. Accessed 15 February 2005.

⁹ Harvard Crisis Management Plan. Published September 2002. Accessed 15 February 2005.

The Relationship Between Harvard and Cambridge Before and After September 11th

Before 9/11, the City of Cambridge had an ongoing relationship with Harvard on the levels of administration, security and emergency management.¹⁰ At the administrative level, the President of Harvard University Larry Summers meets or speaks with the Mayor of Cambridge Michael Sullivan and City Manager Robert Healy monthly. Remarking on the subject of the University's relationship with Cambridge, Dr. Summers considers Harvard to be "well-networked into Cambridge and Boston."¹¹ Interaction between the city and the University typically occurs through activities like permit negotiations, funding for Cambridge Public Schools, and a "Senior Day" student shadow program that takes place annually at Harvard. The two sides disagree on occasion, with Cambridge, for example, seeking a greater involvement by Harvard in its public schools and Harvard seeking more interaction from Cambridge regarding community relations.¹²

The relationship between the Harvard and Cambridge police departments has gone through its share of ups and downs in the past but has been continually strengthened through regular communication. Chief Bud Riley of the Harvard University Police Department (HUPD) and Commissioner Ronnie Watson of the Cambridge Police Department (CPD), as well as detectives, deputy chiefs and superintendents from each department share information including criminal intelligence reports, potential threats, and best practices. While the HUPD is not a substation of the CPD, it occasionally handles some CPD calls. Mr. Catalano from the HUPD agrees that the relationship between the two police departments is strong, however they occasionally bump heads over jurisdictional issues, property ownership, or land use.¹³

Formal and informal structures that existed in Cambridge before 9/11 facilitated a strong working relationship between Harvard and Cambridge. This relationship developed on various levels in the realms of city and University administration, security, and emergency management. Before 9/11 Cambridge and Harvard communicated about emergency response largely through the Local Emergency Planning Committee (LEPC), administered by the Cambridge Fire Department. Having an active LEPC in Cambridge before 9/11 demonstrated the city's commitment to the issue of emergency planning. Consequently, the details of the relationship between local groups regarding emergency management were already in place when the attacks occurred and there was no need to re-establish these partnerships after 9/11. The response in Cambridge was instead to increase the amount, and in some cases type, of information exchanged. Other changes included adjustments to security priorities, increases in joint training exercises, and

¹⁰ Mayor Michael Sullivan, telephone interview, 20 January 2005.

¹¹ Dr. Larry Summers, personal interview, 8 February 2005.

¹² Ibid.

¹³ Mr. Steve Catalano, telephone interview, 8 January 2005.

improved information exchange. The attacks highlighted the importance of relationships in the city and particularly emphasized the importance of communication.

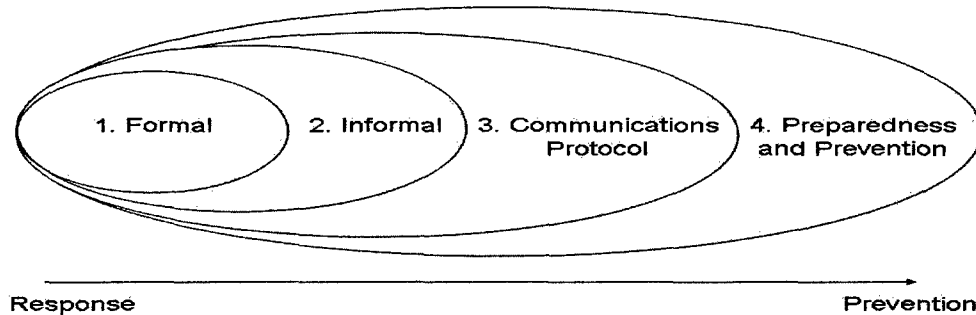
Where do we go from here?

Despite the potentially tense nature of interactions between universities and local government, the relationship between Harvard and Cambridge in homeland security and emergency management is solid. As described previously, there is a general level of trust between individuals from each side, a great deal of daily interaction, and a solid communication system. There remains, however, room for improvement.

Harvard and Cambridge currently have solid systems in place for cooperation under normal conditions, for notification processes in an emergency, and for the initial response to a crisis. The two have yet to develop a solid and sustainable partnership for the actual response phase of a Level 3 emergency. Specifically, Harvard and Cambridge can strengthen their relationship to facilitate more rapid resource exchange, seamless first-responder interaction, and greater general assistance and awareness.

In building this partnership, it is important to keep in mind the importance of an 'all-hazards' response plan. While it would be ideal to have a specific response plan that addresses these issues in a major emergency, it is impossible to create one for every circumstance. Planning the response to emergencies involving chemical spills, radiation, or the release of biological agents is productive and necessary; however neither Harvard nor Cambridge can determine the exact scenario that may occur. To have the most effective possible emergency response capabilities in Cambridge, emergency responders must have all-hazards response plans designed specifically to be flexible, resilient and able to accommodate any type of response during a major emergency.

From the data collected for this PAE, four main characteristics emerge as essential elements of a successful and thorough emergency response structure in Cambridge:

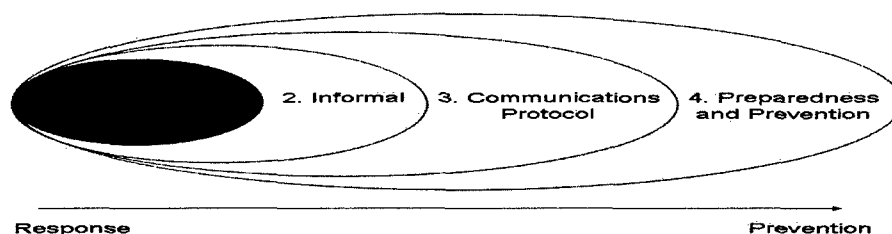


1. Established formal relationships. When responding to a major emergency, Cambridge should draw on all of its available resources, many of which exist in the physical and intellectual capabilities of its major universities. In doing so, it is crucial that these resources can be accessed smoothly and quickly, with legal and logistical details settled in advance.
2. Resilient informal relationships. In a major emergency, it is crucial that first responders from both local government and universities work together quickly, effectively and seamlessly. If relationships during daily operations are shallow and under-developed, they will prove useless, brittle, and unsustainable under the stress of emergency conditions.
3. Communications protocols. Certain emergencies do not invoke formal or informal interaction between Harvard and Cambridge. In such emergencies, where a single party needs to respond only in its jurisdiction, there need to be guidelines or communications protocols that provide a general awareness of the other party's actions. This measure helps to ensure the effectiveness of each individual response, creates common understanding of the situation, and lays the foundation for potential cooperation and coordination should the need arise.
4. Prevention. A durable, all-purpose emergency plan should look beyond response towards prevention. Communities with major universities have an asset not only in emergency response but in the research and work that contributes to daily security and public safety efforts. Furthermore, interaction should expand into other areas of each of the two communities to move beyond Local Emergency Planning Committee communication and to create a stronger learning environment.

The recommendations that follow address the four characteristics of a flexible emergency response plan that fully leverages the relationship between universities and local governments. First, it examines the importance of formalizing the public sector-academic relationship before an emergency to facilitate the exchange of physical and intellectual resources during one. Second, it describes how and when to build informal relationships so that people do not meet for the first time when they work side-by-side in an emergency. Third, it recognizes the importance of communications protocols in emergencies that each party responds to separately. Finally, this PAE examines the potential to leverage this relationship beyond emergency response to strengthen the overall homeland security and public safety efforts in Cambridge.

In making these recommendations, this PAE seeks not only to ensure the strongest possible response to a major emergency but also to ensure a long-lasting emergency management structure in this community. The sustainability of domestic preparedness is a major concern among first responders, city officials and academics. First-responders face the challenges of waning political support and funding in the absence of a major crisis. By adopting the following recommendations in the immediate interest of security and public safety, Harvard and Cambridge will not only strengthen their current emergency management system but will further develop it to endure in the face of future challenges.

RECOMMENDATION 1: Settling Details Before an Emergency: Formalizing Relationships



Harvard's first step in emergency planning is to determine how and when it will provide both intellectual and physical resources to the City of Cambridge and to formalize this in an agreement with city leadership. In some cases, an emergency requires Cambridge to draw on resources from its major universities, including Harvard. Harvard's Crisis Management Plan (CMP) details how the University will internally respond to an emergency but does not address how it will act externally, specifically in its interaction and communication with Cambridge. When such a situation occurs, it is likely that the exchange of resources will raise issues of liability, financial considerations or usage qualifications. It is essential to have written agreements between Harvard and Cambridge in place before an emergency occurs and to formalize these aspects of the relationship.

To illustrate a potential scenario where Harvard can help Cambridge handle an emergency consider a big fire or a major homeland security event that displaces large numbers of people. The immediate availability of transportation, shelter, trained medical personnel and food is necessary. While Cambridge may have limited amounts of such resources, it can draw on those available at Harvard such as shuttle buses, gymnasiums, hospitals, qualified personnel, medical students and dining services. In a major emergency it is likely that Harvard would share these resources immediately but questions of incurred costs, liability and the extended use of resources such as equipment, supplies, and facilities will eventually arise.¹⁴ Prior consideration of these issues is necessary for resource exchange to occur smoothly in both the response and recovery phases of the emergency. Formalizing the resource exchange before an emergency helps to establish a clear course of action and prevents hesitation that results from liability or compensation issues.

¹⁴ Mr. Steve Catalano, telephone interview, 8 January 2005.

Potential Obstacles

Obstacles that may arise during MOU negotiations are:

- The definition of fair compensation for employees and resources
- The reconciliation of differences in resource accounting
- The management authority of Harvard University facilities during an emergency
- Indemnification against failed advice from Harvard experts or equipment failure
- The possibility of Harvard reclaiming or withholding resources as conditions of an emergency change

Harvard and Cambridge may differ about who initially pays the bill for the prolonged use of resources, facilities and employees. If Harvard or Cambridge incurs expenses from the prolonged use of resources, an agreement should include the timeframe for reimbursement and the fair market rate for employee overtime and resource regeneration or replacement. Additionally, Harvard should indemnify itself against differences in resource accounting, from the responsibility for improper resource function or usage and from misinformed expert advice. Negotiations should address such legal issues as well as the extent of the "good Samaritan" rule. Harvard should retain the ability to determine how and when to distribute, allocate, or withhold resources to ensure its main priority of protecting its population. Finally, Harvard should seek to retain administrative control over its facilities during an emergency.

Implementing Recommendation 1

Some officials from Cambridge and Harvard recommend exploring the idea of a Memorandum of Understanding (MOU) to formalize the exchange of intellectual and physical resources. (Figure 2) They advocate structuring an agreement that outlines the appropriate interaction of people and exchange of resources during an emergency. A comprehensive MOU should address [*Appendix B: Sample Table of Contents for an MOU*]:

- Incident command and legitimate authorizing authority issues
- Resource allocation and categorization
- Compensation issues
- Liability and legal issues
- The role of non-profit organizations, such as the American Red Cross (ARC)

An informal incident command system already exists between Harvard and Cambridge during an emergency. The city's incident commander is usually from the police or fire department and is in charge of the situation until he relinquishes control to the appropriate University official. The MOU should formalize this system and establish a

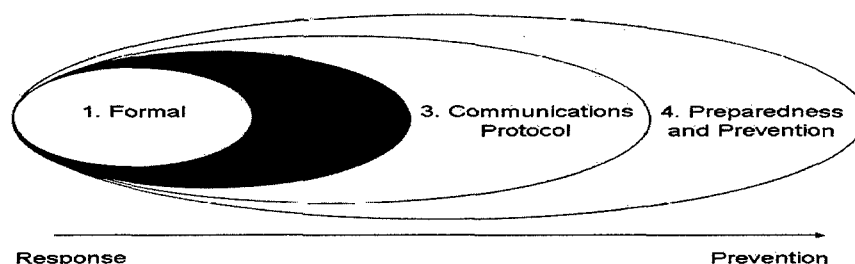
system of accessing an on-call individual from the University to act as a liaison to the incident commander from the city. The MOU should address timing, procedures and decision making authority for command transition. The MOU should also designate a resource allocation decision making process and individuals from Harvard and Cambridge to act as liaisons. This step includes a Cambridge representative(s) authorized to request resources and Harvard representative(s) authorized to deploy certain pre-approved resources. The MOU should also establish when and where Harvard University administrators will retain control over Harvard facilities and will continue to manage operations during an emergency. Furthermore, it should address situations where, if necessary, Harvard can withhold or re-acquire resources to ensure the safety of the Harvard community.

Figure 2: MOU Contents

<p>Incident command and legitimate authorizing authority should be established by Harvard, including an on-site Incident Commander. This person is in charge on-scene to talk with the incident commander from the Cambridge Fire Department/Police Department. This formalizes what is currently in place. It should also address timing, procedures, and decision making authority for command transition. It should designate a resource allocation decision making process and individuals from Harvard and Cambridge to act as liaisons.</p>
<p>Resource allocation and categorization should determine what resources will be made available to whom and for how long. It should address the level of training required to operate certain equipment or facilities and establish a pre-approved list of people authorized to control certain resources. It should also formalize that the Cambridge will clean and return equipment in proper condition and that Harvard will not be held liable for equipment failure.</p>
<p>Compensation issues are those that arise in situations where Cambridge must compensate Harvard for resources like employee overtime or the use of various supplies. This compensation includes, but is not limited to, energy and water consumption required to operate facilities during an emergency, money required to pay employees to operate, clean or restore resources, and reimbursement for supplies such as food and water.</p>
<p>Legal issues in the MOU should be handled through a liability waiver. They include, but are not limited to, an agreement guaranteeing indemnification against improper advice, release of liability from equipment failure or misuse, release of liability from allergic reactions from food services, the recognition that Harvard will not send its people into harms way, and a release of liability when attempting to reconcile resource differences after an emergency. It should further detail a dispute resolution process if Harvard and Cambridge cannot reach consensus.</p>
<p>Non-profit organizations should be addressed in the MOU because many, such as the American Red Cross, require safety inspections and proper orientation before an emergency. Here Harvard should agree to have the ARC, or other agreed upon non-profits, conduct the required inspections to facilitate their participation during an emergency.</p>

Harvard's first step to achieve a permanent, formal MOU is to draft a proposal. Harvard should seek input from the Counsel's Office and approval from Larry Summers' office before it negotiates the MOU with Cambridge. Once approved by the proper channels in the University, the next step is to engage necessary city officials including the Mayor or one of his representatives. The potential obstacles noted above require discussion and settlement before an MOU can take effect.

RECOMMENDATION 2: When to Meet for the First Time: Building Informal Relationships



In an emergency, “nothing substitutes for the on-the-ground decision making and critical leadership skills.”¹⁵ This observation was made by a principal of the high school that is adjacent to Ground Zero. On 9/11, she evacuated all of her students to safety ten minutes before the first Tower collapsed. A crucial element in her decision making process that day was, “staff preparedness, specific to individual responsibility”.¹⁶ By the day of the attacks, she and her staff, “had worked together to know and understand how each individual staff member will take up a specific job, thereby achieving a coordinated effort.”¹⁷

An emergency situation presents first-responders with challenges ranging from communication failures and power outages to events for which no plan or protocol exists. In this situation, it is crucial that those responsible for public safety work seamlessly side-by-side, whether it is in a public high school in New York or specific location in Cambridge. A major emergency will demand the efforts of public safety officials across organizations. Therefore, it is critical that in an emergency, people are not meeting each other for the first time.¹⁸

It is particularly important to understand how others in a community will respond to a crisis and to trust that they will respond well. Cambridge is fortunate to have a small community that, to a certain extent, is conducive to building personal relationships and trust among first responders from both the city and the University.¹⁹ Harvard and Cambridge police forces have a particularly strong relationship that can serve as a model for first-responders in Cambridge and almost any other community.

¹⁵ National Center for Disaster Preparedness. “Uncommon Sense, Uncommon Courage.” Columbia University; Mailman School of Public Health. December 2004. p. 65.

Available at: http://www.nydis.org/9-11recovery/materials/Uncommon_Courage.pdf

¹⁶ Ibid, p. 69.

¹⁷ Ibid, p. 69.

¹⁸ Mr. David Bibo, phone interview, 19 February 2005.

¹⁹ Mayor Michael Sullivan, phone interview, 20 January 2005.

A Model for Informal Relationships: Harvard and Cambridge Police

After 9/11, the relationship between the Harvard University Police Department (HUPD) and the Cambridge Police Department (CPD) was able to build upon an already strong relationship. Since this relationship was strong before the attacks, the changes that occurred after 9/11 was within the individual police forces as opposed to between them.²⁰ Ultimately, their relationship stems from the shared daily goals that their jobs train, mandate, and pay them to do. Today, the relationship between Bud Riley, Chief of the HUPD, and Ronnie Watson, Commissioner of the CPD, remains 'excellent.'²¹

In a city with multiple police forces, including university police, there is potential for a culture clash between departments. For instance, some stereotypes suggest that university police forces are not 'real' police but are more like security guards hired to keep college kids under control. Such stereotypes also imply that they are more vulnerable to university politics. The opposite is true in Cambridge. Both the Harvard and MIT police come from very strong law enforcement and security backgrounds. Chief Bud Riley of the HUPD and Chief John DiFava of the MIT police department have years of experience as state police officers. In all interviews with Cambridge police and officials, the university police forces were described with high levels of respect and familiarity. The same sentiment was echoed by the HUPD about the CPD. One Cambridge officer attributes this to good hiring, well-run 'police-oriented' cultures in the university departments.²² One officer from the CPD states that, across departments, the shared goal "is to reduce crime, not see whose name gets in the paper."²³ The strong policing background of both city and university personnel creates a common culture that stems potential problems and political infighting. Both departments have had joint training exercises and know from experience that their counterparts are highly qualified. This joint training is invaluable and there is no substitute for face-to-face interaction.

The relationship between the CPD and HUPD is built on shared goals and confidence in each other's backgrounds, ability and dedication. Along with officers from MIT police, they meet quarterly to go over their largest issues and vulnerabilities. Actual cooperation between the CPD and HUPD, however, occurs almost daily. The trust and personal/professional relationship between the CPD and HUPD exists because it has been built up and strengthened over the last twenty years, not because of 9/11.²⁴ Trust is a key element in the effectiveness of all police forces in Cambridge and, in an emergency allows police officers to fully realize their potential for an effective response. Mr. Catalano from the HUPD adds, "You can't train for every emergency. Personal relationships make it go."²⁵

²⁰ Mr. Steve Catalano, telephone interview, 8 January 2005.

²¹ Commissioner Ronnie Watson, telephone interview, 19 January 2005.

²² Ibid.

²³ Mr. Frank Pasquerello, telephone interview, 20 January 2005.

²⁴ Ibid.

²⁵ Mr. Steve Catalano, telephone interview, 8 January 2005.

Potential Obstacles

In developing emergency response capabilities, the first challenge communities face is to build the informal trust that only comes from working together. The goal is to create an environment where first responders share an identity, and do not identify themselves solely with the badge on their shoulder.²⁶ The second challenge is to create this environment without reinventing the wheel. Relationships already exist during day-to-day interaction, and it is these relationships that will become important in an emergency. Joint activities are beneficial; however, increased interaction in daily roles also builds familiarity and trust.

The current relationship between the Cambridge and Harvard police departments is a good model for addressing both challenges: creating an environment that develops shared identities and using daily interactions to form a strong informal network. For the most part, the biggest priority for each police department is day-to-day public safety. The post 9/11 effects are largely seen on this level as opposed to in preparations for a similar crisis. Because daily public safety is the mutual goal, incidents such as the sexual attacks that occurred both before and after 9/11 around the Harvard campus, are as high of a priority for each police department as the vulnerabilities directly related to 9/11.²⁷ Focusing on these goals enables the police departments to build their relationship to the fullest extent possible, while fulfilling their daily responsibilities. This informal relationship is an asset in a major emergency as Cambridge is unlikely to stumble in its response due to issues with distrust or unfamiliarity.

Practically, the police have a structured relationship in place that exists in both emergency and normal conditions. They act as the nodes of communication between Harvard and Cambridge in both minor and major emergencies, with essential information being passed by the police to relevant personnel in each community. A challenge for both parties is to identify who, outside of the police, would need to work together in an emergency and to bring them together around shared tasks and goals. Obviously, it is impossible to predict everything an emergency would involve. A strong all-hazards plan can, however, identify people likely to come together and also identify ways to facilitate interaction in any circumstance.

One of the keys to effective emergency response is to ensure that in an emergency, people responsible for public safety "aren't meeting each other for the first time."²⁸ The relationship between the police departments is not easily replicable given the specific nature of their duties. It is, however, possible to replicate the strong points of this relationship in other functional areas. Increased interaction under normal conditions, creating circumstances where new people work together, and in some cases staging

²⁶ Mr. David Bibo, telephone interview, 19 February 2005.

²⁷ Ibid.

²⁸ Ibid.

artificial exercises will facilitate an improved relationship between Harvard and Cambridge. The findings, obstacles, and recommendations from the police model can apply to a wide range of emergency response groups. These include firemen, paramedics, HAZMAT teams, and other first responders that would get involved in an emergency or crisis situation.

Implementing Recommendation 2

1. Increase Cross Training

Working together and experiencing other people's surroundings strengthens an understanding of their daily operations and emergency management procedures. Cross training, i.e. physically sending people from one department to work in another, would allow people to see what others' daily work is like, how they approach tasks and what resources they have at their disposal.²⁹ For example, sending a member of Harvard's emergency management team to work in Cambridge's emergency management office would expose them to the personnel, resources and facilities of that office. Furthermore, it would allow individuals to understand how each jurisdiction works. As one HUPD official put it, "Harvard is more than Cambridge and Cambridge is more than Harvard."³⁰ A clear understanding of what comprises each jurisdiction is useful in emergency response on any level.

Specifically, cross training would be useful for members of emergency management offices, the Cambridge Fire Department and the police department. This would not have to occur frequently, as it is both impractical and counterproductive after a certain point given time constraints. Cross training should take place as a supplement to other practices that exist to build informal relationships through daily interactions.

2. Strengthen the Local Emergency Planning Committee

The LEPC serves as a conduit to bring together individuals in Cambridge from many parts of the public sector and academic institutions to discuss important emergency management issues. If the LEPC did not exist before 9/11, it is likely that Cambridge would have established one in the aftermath of the attacks. The city is fortunate to have a cross-sector emergency management committee in place so that it does not have to build a new one. However, given the attention and research devoted to effective emergency management and prepared first-responders in the wake of 9/11, three measures can

²⁹ Mr. Steve Catalano, telephone interview, 8 January 2005.

³⁰ Ibid.

strengthen the LEPC. (Figure 3) This committee is an ideal forum for emergency management officials to interact during non-emergency conditions, to exchange information and to learn from each other. Currently, it does not realize its full potential and would benefit from:

Figure 3: Strengthening the LEPC

Increased representation. Participants should send high level representatives to LEPC meetings who are able to change policy. This key individual would show each department's commitment to emergency management.

Thinking outside-the-box. The LEPC should not only look to non-public sector resources for support, but should also encourage Harvard and MIT to include Lesley University more in the planning process because they can offer increased resources and technical assistance.

Active engagement. In addition to serving as a communication committee, LEPC members could be more proactive in emergency planning exercises. For example, LEPC representatives from the city and different universities in Cambridge could attend FEMA's Integrated Emergency Management Course in Maryland for a simulated crisis exercise.³¹

3. Increase Quality of Full-Scale Exercises

Cambridge and Harvard have accomplished full-scale exercises, tabletop exercises, and drills in the past. In May 2003, Cambridge conducted a full-scale exercise that included Cambridge universities, officials from Belmont, Boston, Brookline, and Medford, and other representatives from the state and federal levels (FBI and Secret Service). The exercise was a simulated detonation of a dirty bomb with approximately 70 volunteers on a Saturday morning. Representatives from various agencies assembled at emergency operations centers where they communicated with one central office. This exercise was useful for observing how emergency response officials react, communicate, and interact during an emergency in Cambridge.

Although it is ideal to run these exercises often and to perfect responses to various emergencies, it is neither practical nor realistic. Officials who participate in these activities have daily obligations that take up their time and are essential for the operations and safety of their respective institutions. The exercises are disruptive, expensive to administer and could be exploited as opportunities for consultants to make money.³²

³¹ Captain Gerry Mahoney, personal interview, 10 January 2005.

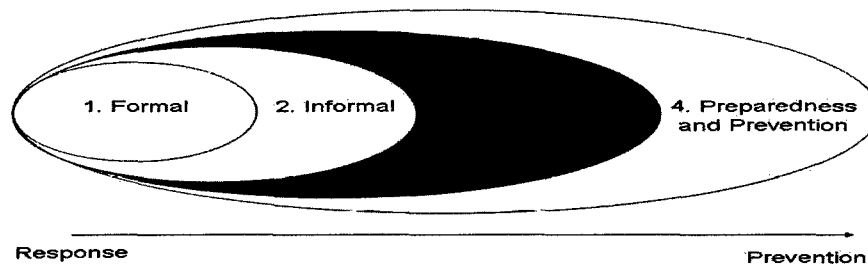
³² Mayor Michael Sullivan, telephone interview, 20 January 2005.

Full scale exercises are, however, extremely useful and informative if held periodically. It is critical that the quality of such exercises increase. For Cambridge to benefit as much as possible from these exercises every party who would respond to an emergency should participate fully. Many key policy makers who respond in an actual emergency are often not involved with the day-to-day emergency response planning or Level 1 and Level 2 emergency response. Their involvement in full-scale exercises would make the exercises more realistic and the lessons learned more valuable. Furthermore, involving key policy makers signals their commitment to emergency management and indicates that it is a major priority for their respective institutions. In the absence of full scale exercises, tabletop exercises are also effective to strengthen this relationship.

In addition to increasing the quality of planned emergency simulations, Cambridge can build informal relationships from joint participation that occurs before major events in and around the city. While these events would not necessarily draw on all emergency response personnel, they can help strengthen informal relationships that are currently thin. For example, the 2004 Democratic National Convention (DNC) that took place in Boston united emergency response officials from all over the region including Cambridge. In this process, relationships, lines of communication and networks were built around the issue of emergency response.

Of course, this is only achievable to the extent that such events occur. It would be possible, however to engage people from outside the normal participants to work on certain events. One such event is Harvard Commencement, which takes place in Cambridge each year. It involves security, crowd control, contingency planning and managing a high profile situation. While Cambridge officials, particularly the police, are already a large part of managing commencements in Cambridge, there are other emergency response officials who could participate in this quasi-table top exercise.

RECOMMENDATION 3: Communications Protocols: Building General Awareness



Certain emergencies, particularly Level 1 or 2 emergencies do not require resource sharing, the protections of formal agreements, or even informal interaction. In cases where an emergency occurs in Cambridge that both parties can manage independently, the need to collaborate is not immediately obvious. Although collaboration may not be necessary to respond to a crisis on this level, there is a definite need for a communications protocol. More specifically, there needs to be an awareness of emergency response in Cambridge before an emergency occurs.

A recent water-main break in Cambridge illustrates this need. The break was an emergency that both Harvard and Cambridge managed independently. As a well-run and self-sufficient institution, Harvard focused on dealing with the problems in its jurisdiction, consequently enabling Cambridge first responders to focus their attention on other areas of the city. The problem was resolved relatively quickly; however, it could have escalated to a water shortage that required relocating people or delivering food and water using alternate means.

Although each party was able to manage the emergency alone, the fact remains that the incident was Cambridge-wide. Harvard notified its Incident Support Team (IST) who convened two conference calls and sent representatives to the scene as on-site observers. The IST acted without concrete knowledge of how Cambridge was responding to the emergency and did not know the steps the city was taking to resolve the situation. As a result, it was not clear who to contact for information regarding the severity or predicted length of the water-main break. Furthermore, Cambridge city officials and first responders were already overwhelmed with phone calls, so more calls were not an easy solution to the problem. An inundation of calls could, for example, severely slow down communications at Cambridge 911. If Harvard officials were aware of Cambridge's emergency response plan then they would have known which Cambridge officials were

acting in what capacity and how to anticipate the city's response. This would allow Harvard to monitor and adjust its response accordingly.

Just as it is beneficial for Harvard officials to know about Cambridge's emergency response plans, it is also beneficial for Cambridge to understand Harvard's CMP. As David O'Connor, the Director of the Cambridge Department of Emergency Management, points out, such knowledge in an emergency would allow him to understand pre-determined decision making structures, courses of action, and emergency management plans. Furthermore, exchanging plans fosters learning between the institutions. Although the plans concern different communities in the same city, entirely different institutions used different approaches to create them. Exchanging ideas from plans created by an academic institution and a public sector organization will produce new ideas and improve the city's overall emergency response.

Potential Obstacles

Town-gown tensions may be a potential obstacle to collaboration on this level, given the strong cultures that tend to dominate city agencies and universities alike. The data from interviews conducted for this PAE, however, refute this image of suggest that negative town-gown relations in Cambridge are not a large issue. Emergency management officials on both sides have a great deal of respect for their counterparts and generally welcome the idea of working together on these issues.

Obstacles that may block progress towards a communications protocol are mostly structural. A major complication that emerges in anticipation of collaboration results from a perceived organizational weakness at Harvard. Currently, Harvard's emergency management plans are specific to each of its nine schools at the first-responder level. While the Harvard CMP lays out a general response plan for the school, the details of how each school's response during a crisis are based on these individual plans. This decentralized structure makes it difficult to collaborate with other institutions in emergency management and makes communication more complicated.

A second obstacle that influences general awareness during both minor and major emergencies is the communications system. Cambridge's communications system is sophisticated and highly capable of connecting nearly any public office in the city, however, Harvard and MIT, are not connected to it. Since both schools support and protect a large portion of Cambridge's population, connecting the relevant offices in the universities helps expedite communication and streamline cooperation during an emergency.

Finally, the current informal systems would benefit from increased usage to convey general information during an emergency. For example, during the recent water-main break, Cambridge's website did not communicate information about the city's progress, making it difficult for responders at Harvard to act. If both Cambridge and Harvard focused on updating their websites with relevant information during an emergency, others in the community could respond more efficiently and effectively. A general communications protocol would cover this type of issue and facilitate information exchange during various emergencies.

Implementing Recommendation 3

1. Expand the Forum for Exchange: The University Committee for Emergency Preparedness and Response

An ideal forum for Cambridge and Harvard to exchange these emergency plans does not currently exist. To fully understand and benefit from each other's emergency plans, they should meet separately from the LEPC which is presently the only emergency management meeting that regularly brings the two parties together. One option is to create a new committee with emergency management officials from Cambridge, Harvard, MIT and Lesley University.³³ The committee could be called the University Committee for Emergency Preparedness and Response (UCEPR). Since the additional meetings will compete with other issues for time, they can occur infrequently on a quarterly or semi-annual basis. Exchanging updated information about emergency plans will allow representatives to take this knowledge back to their respective institutions, draw on it during an emergency and apply new ideas during daily operations. This exchange allows the universities and public sector to work together more closely and creates an opportunity for the universities to share ideas.³⁴ As such, the exchange will be most beneficial if it occurs between officials who are able to affect policy decisions. UCEPR should also meet during heightened threat periods and before large events, such as the Harvard Commencement, to discuss whether to alter notification and response plans. The meeting should also include representatives from housing and dining services to build relationships and to discuss issues that are relevant to those departments before an emergency occurs.

While Cambridge and Harvard currently meet on the LEPC, it is not a group specifically designed to discuss issues facing universities and their relationship with the city. The city of Boston is pursuing an initiative somewhat similar to the recommendation made here. Based on the value of its universities, Mayor Menino has designated a liaison between the city and the schools to work with them at all levels. Here the local government is attempting to communicate with universities about a number of issues, one

³³ Director David O'Connor, personal interview, 23 February 2005.

³⁴ Ibid.

of which is emergency management.³⁵ Similar to circumstances in Cambridge, this initiative in Boston builds relationships before an emergency and facilitates logistical support if one occurs. Furthermore, Boston can focus on the unique issues facing its universities and leverage them as a valuable resource.

2. Create a Centralized Node of Communication within Harvard

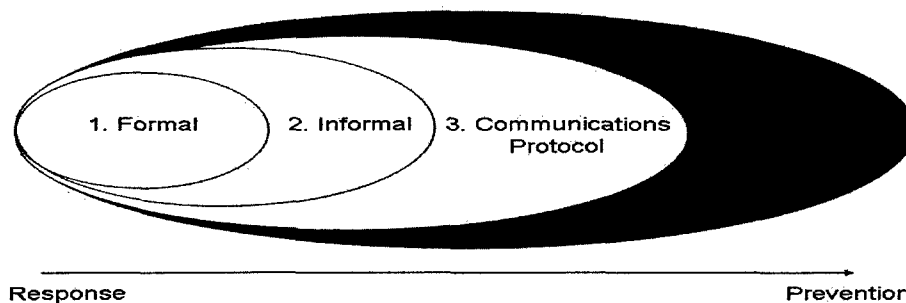
To ease interaction between Cambridge and Harvard, Harvard should centralize part of its emergency management system. Specifically, it should formally streamline the decision-making process during an emergency from the multiple committees that are involved with emergencies, with the ultimate decision resting with the Provost or President of Harvard University. Harvard should also use the Incident Support Team (IST) as a central node of communication between Harvard and Cambridge emergency management during both normal and emergency conditions. Currently, the emergency management system at Harvard is decentralized among the nine schools, making it complicated to work with from the perspective of someone outside of the University. To reduce the perception that Harvard is decentralized, the IST could be the main node of communication between Harvard and Cambridge during non-emergency operations. Its role would include inviting the Director of Emergency Management, currently David O'Connor, to annual IST meetings and designating a liaison on the IST to communicate with the local government under normal, as well as emergency conditions. The IST should also consider holding informal meetings throughout the year with 'expanded' emergency response personnel from Harvard and Cambridge, such as dining services and housing.

3. Create a Web-based Emergency Management System

One way for Harvard and Cambridge to communicate during an emergency is through a web-based emergency operations center (EOC). Similar to the web-based emergency management tool used in the Boston area during the DNC, it would be a joint website where Cambridge and Harvard can exchange information. Information concerning the availability of transportation, facilities, and food would help solve resource problems and provide a feedback mechanism for Harvard to communicate with Cambridge during an emergency. An updated web-based EOC can help the Cambridge emergency management community respond more efficiently and effectively.

³⁵ Mr. David Bibo, telephone interview, 19 Feb 2005.

RECOMMENDATION 4: Beyond Emergency Management: Leveraging University Preparedness



An academic-public sector partnership greatly benefits emergency management and homeland security on the level of first response. Additionally, academia offers a wealth of intellectual resources to assist in day-to-day emergency preparedness and prevention. Both faculty and students from universities can contribute to public-sector homeland security efforts with their knowledge about the causes and effects of emergencies, particularly major disasters. Individuals in academic institutions who have devoted considerable amounts of time to study them can lend a new perspective to local government officials who must focus on daily priorities. Experts on these issues who work and study at Harvard can share information and lend expertise towards specific goals. For example, faculty and students can work with Cambridge to help align homeland security objectives with day-to-day city operations, a goal that many in the local government want to achieve.

San Diego State University (SDSU) and the University of California San Diego (UCSD) serve as a model for increasing academia's involvement with the public sector. In April 2002, Congressman Duncan Hunter and Congresswoman Susan Davis convened a summit on homeland security and engaged SDSU and UCSD to serve as "neutral brokers." The universities reached out to the community's diverse institutional sectors to encourage participation from public and private organizations in developing the San Diego Regional Network for Homeland Security (RNHS).³⁶ While the RNHS will phase out in 2005 as other regional initiatives replace it, the role of universities in facilitating collaboration and resource exchange remains.

³⁶ http://sdrnhs.ucsd.edu/pages/about_us.htm. San Diego Regional Network for Homeland Security. Accessed 14 Feb 2005.

In three years, SDSU and UCSD:

- Gathered a list of experts in homeland security and emergency management in the universities for the city's use
- Engaged faculty to write CDC funding proposals for San Diego local government
- Suggested ways to allocate city funding
- Recommended ways to engage the media and press in homeland security efforts
- Developed college student "readiness projects" for community emergency management efforts
- Collaborated on the 'Shadow Bowl,' which coordinated security and emergency response for the 2004 Super Bowl in San Diego³⁷

Potential Obstacles

There are obstacles that may limit university involvement with city agencies. Town-gown tensions could stymie collaboration if there is a perception on the part of local government that academics are 'over-stepping their bounds' or being opportunistic. Interview data reveals, however, that many Cambridge officials welcome Harvard's expertise and recognize that the homeland security and emergency response fields involve extensive complexities with which Harvard can help. Scarce funding in Cambridge may inhibit consulting from Harvard faculty or administrators; however, the opportunity for unpaid input still exists.

Implementing Recommendation 4

To fully leverage the intellectual resources that Harvard can offer Cambridge the UCSD-SDSU partnership serves as a model. The following recommendations are taken as best practices from this case study and can be applied in Cambridge.

1. Endorse Homeland Security and Emergency Management Initiatives

At the end of the April 2002, summit, "SDSU President Stephen Weber and UCSD Chancellor Robert Dynes agreed to a request...that the two universities take a joint leadership role in coordinating regional responses to the scientific technological, and operational challenges associated with the [RNHS] initiative."³⁸ Their explicit support

³⁷ Mr. Barry Janov, Ms. Lucy Cunningham, and Mr. Bob Welty, telephone interview, 14 Feb 2005.

³⁸ Mr. Barry Janov, Ms. Lucy Cunningham, and Mr. Bob Welty, telephone interview, 14 Feb 2005.

represented an unequivocal commitment to engage this issue within the San Diego community.

Similarly, the President of Harvard University, Larry Summers sets the agenda, tone and issues of high priority for the faculty, administrators, and students at Harvard University. A statement by Dr. Summers supporting new emergency management and homeland security initiatives is necessary to encourage the Harvard community to become more involved in homeland security and emergency preparedness in Cambridge.

2. Increase Student Involvement

Both SDSU and UCSD have developed new academic disciplines, in the field of homeland security, spawning initiatives that increased student involvement in community projects, grant writing, and emergency plans. Last year SDSU issued over thirty five Master in Homeland Security degrees and instituted a new Global Emergency Preparedness major. Increased interest led to greater student involvement in their community. San Diego receives much needed help, while students gain real-world experience and networking opportunities that could lead to employment after graduation.

Harvard University, modeling itself after the Regional Homeland Security Network in San Diego, can include new majors to study emergency preparedness and response. The Belfer Center for Science and International Affairs at the John F. Kennedy School of Government has already conducted emergency preparedness research and seminars, yet has not seen student involvement with the surrounding community. The International Security and Political Economy policy area of concentration (PAC), part of the Master in Public Policy degree program, could offer specific classes in homeland security and domestic preparedness. These classes could engage students to work in the community and provide opportunities for more diverse classes and fields of study. A similar initiative was successful when a Kennedy School budgeting class collaborated with Somerville on the city's budget.

3. Consult on Grant Writing and Emergency Response Plans

University faculty members can assist with the intricate and complicated grant application processes and can help improve existing emergency response plans. Deans and department chairs at SDSU provided faculty with opportunities for additional freedom, such as a lighter teaching load, to encourage their involvement in the community. Many professors participated in a working group that compiled a list of experts to respond to an emergency and developed proposals to allocate CDC funding.

Harvard should send volunteer faculty members to emergency management meetings in Cambridge to determine if the city needs assistance or advice. Interviews with

representatives from the Cambridge Police Department, the Cambridge Fire Department, and the Cambridge Emergency Management Department indicated that grant writing processes are often confusing and hurried. They are open to help with grant writing and emergency response plans, either in the form of consulting assistance or informal support, to handle both time sensitive demands and complex issues.

CONCLUSION

A major challenge that faces local government in the field of homeland security and emergency management is sustainability. As time passes without a major disaster, the political attention currently focused on homeland security will wane, likely resulting in decreased funding, particularly for local government. In this case it is important to create sustainable emergency management systems on the local level while political capital still exists and to ensure that these systems 'stretch local dollars' as far as possible. While academic institutions are not as vulnerable to political change, they are vulnerable to other changes in their community. Conditions in Cambridge could change because of new city officials or evolving external events and the relationship that exists now could be affected by new tensions.

Consequently, these recommendations aim to institutionalize a solid emergency management relationship between Harvard and Cambridge on all levels. Implementing them will ensure that the two have a functioning working relationship from the most official, detailed level to the most unofficial, broad level.

1. **Formal.** The details of incident command and resource sharing will be formally established where necessary. An MOU helps prevent many conflicts that could arise over legal or financial issues.
2. **Informal.** In areas where formal agreements might hinder relations, informal relationships help guarantee a flexible, resilient emergency management network in Cambridge. Building these relationships now and maintaining them with certain measures will make them sustainable.
3. **Awareness.** In areas where neither formal nor informal relationships are necessary, these recommendations help instill a general level of awareness and communication in Cambridge. Developing the relationship out to this level avoids imposing unrealistic bureaucracies or practices and establishes an overarching communications protocol.
4. **Prevention.** These recommendations help strengthen emergency management networks between Harvard and Cambridge and ensure that local government and universities look beyond immediate emergency response towards prevention.

While the relationship between Harvard and Cambridge is well-functioning, there is potential for this relationship to develop further and to fully leverage the physical and intellectual resources each participant contributes. Harvard and Cambridge's relationship can serve as a model for similar local governments and academic institutions, which can contribute immensely to the fields of emergency management and homeland security.

APPENDIX A: MOU TABLE OF CONTENTS

1) Establish an on-site Incident Commander

- One person from Harvard is in charge on-scene to talk with the incident commander from the Cambridge Fire Department/Police Department
- This will formalize what is currently in place

2) Establish the liaisons at Harvard University and in the City of Cambridge

- The City of Cambridge representative is the Mayor or authorized subordinate who may request resources
- The Harvard University representative is the authorized authority to deploy resources
- A pre-approved list of resources the Harvard representative may deploy or make available

3) Determine Resource Categories

- Harvard will make certain resources available that do not require training to operate or use
- Harvard will provide equipment training, to include use and care, to certain individuals on a select list
- Harvard will directly provide a resource or service that does not require Cambridge's participation

4) Establish Guidelines for the Exchange of Intellectual Capital

- Harvard University agrees to lend expertise with the guarantee of indemnification against improper advice summarized in a liability waiver
- Harvard University will publish a list of experts who volunteer to give advice in different areas
- Harvard University will not endanger its students, faculty or staff

5) Establish Protocol for the use of Equipment and Supplies

- The City of Cambridge will clean and return equipment in proper condition
- Harvard University will not be held liable for equipment failure
- Harvard is indemnified against reconciling resource differences.
- Cambridge and Harvard will agree on a dispute resolution process.
- Harvard University is indemnified against any injury that occurs from the use of its supplies

6) Establish Protocol for the Use of Facilities

- Harvard University administrators will manage its facilities (i.e. gym)
- Defines the compensation in return for facility use (energy, water bills)
- Defines the compensation for time to clean/restore facilities (i.e. money to pay employees)

7) Facilitate Participation of Non-Profit Organizations

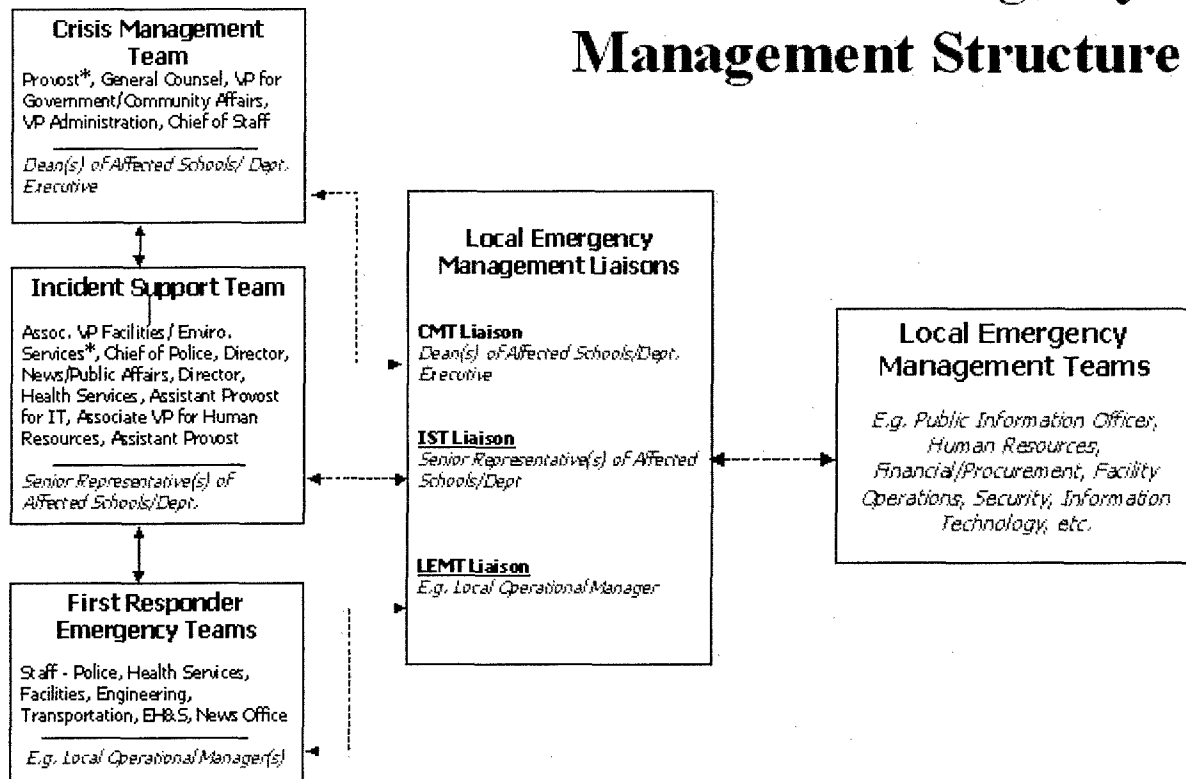
- Harvard will accomplish the necessary and proper inspections from the American Red Cross, or comparable non-profit organizations, to facilitate unhindered participation during an emergency

APPENDIX B: LIST OF INTERVIEWS

Name	City or University	Office or Department	Date of Interview
Mayor Michael Sullivan	City of Cambridge	Office of the Mayor	20 Jan 2005
Commissioner Ronnie Watson	City of Cambridge	Cambridge Police Department	19 Jan 2005
Captain Jerry Mahoney	City of Cambridge	Cambridge Fire Department, LEPC Coordinator	10 Jan 2005
Officer Frank Pasquerello	City of Cambridge	Cambridge Police Department	20 Jan 2005
Director David O'Connor	City of Cambridge	Cambridge Emergency Management Department	23 Feb 2005
Director George Fosque	City of Cambridge	Cambridge 911	16 Feb 2005
Harvard University President Larry Summers	Harvard University	Office of the President	8 Feb 2005
Mr. Joe Griffin	Harvard University	Office of Environmental Health and Safety	3 Mar 2005
Mr. Catalano	Harvard University	Harvard University Police Department	8 Jan 2005
Mr. David Bibo	City of Boston	Boston Homeland Security Office	19 Feb 2005
Mr. Barry Janov, Ms. Lucy Cunningham, Mr. Bob Welty	San Diego State University	SDSU Regional Homeland Security Network	14 Feb 2005
Director Lou DiBerardinis	Massachusetts Institute of Technology	Office of Environmental Health and Safety	29 Feb 2005

APPENDIX C: HARVARD EMERGENCY MANAGEMENT

Harvard Emergency Management Structure



"Harvard University Emergency Communications System"
Presentation. 18 March 2004. Joe Griffin & Gary Kassabian