Terrorism: How prepared is the Fire Service to protect the citizens of Ohio.

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A research project submitted to the Ohio Fire Executive Program

4 June 2004

CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

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ABSTRACT

Over $156 million has been awarded to Ohio to improve preparedness over the last 5 years. $43 million went to first responders. Is Ohio's Fire Service any better prepared to respond to a WMD incident? This study evaluated the readiness of Ohio's Fire Service utilizing Historical, Comparative research and Causal-comparative research. The research involved fire departments that protect over 25% of the population of Ohio.

Ohio is better prepared than pre 9/11/2001. There are major areas of need identified: planning, coordination, and training. The study identified a gap may exists between local perception and actual risk. Efforts at regional coordination would provide for equal protection and response capability for all citizens of Ohio.

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INTRODUCTION

Statement of the Problem

Is the Ohio fire service any more prepared to deal with the unique threat of terrorist attacks using weapons of mass destruction (WMD)? Have we trained our personnel to recognize the threat? Have we identified the opportunity for partnerships with non-traditional responders? What equipment do we now have in our stations that we did not have pre 9-11-2001? Have we learned from the terrorist events across the world, do we take the threat seriously? A significant amount of money has been spent on increasing the level of preparedness across the entire United States (Figure 1), Ohio has received over 174 million dollars since 2001(Figure 2), has that money made a difference?

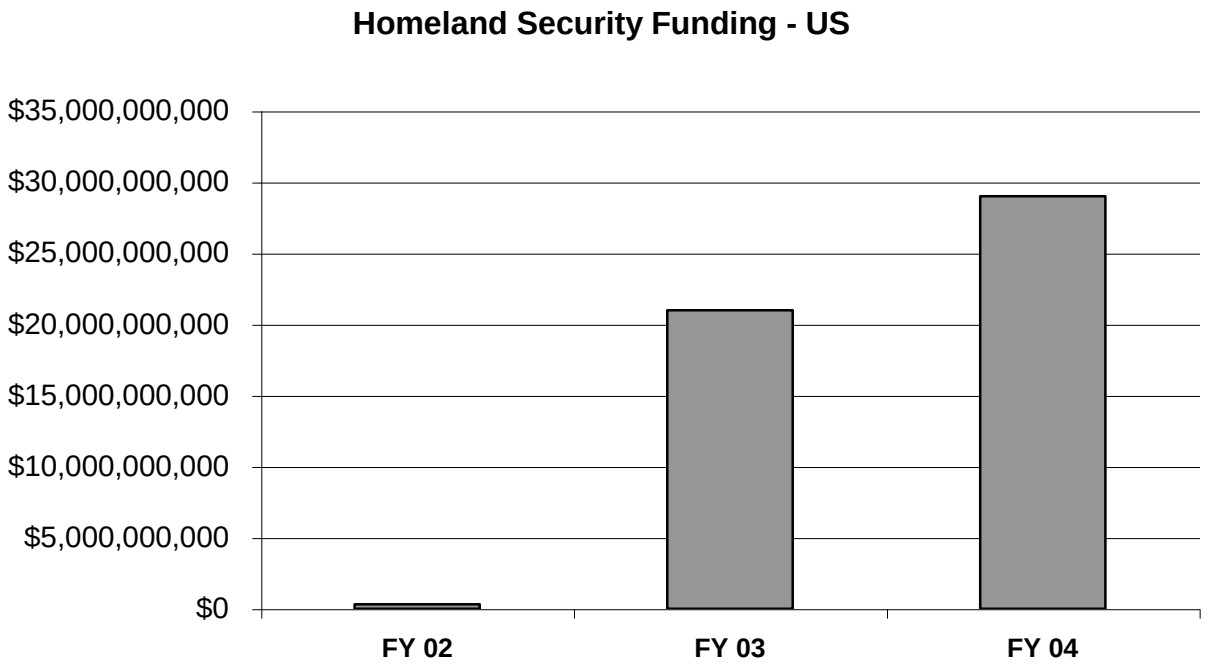

Figure 1. *Federal funding over the last three years – **United States***

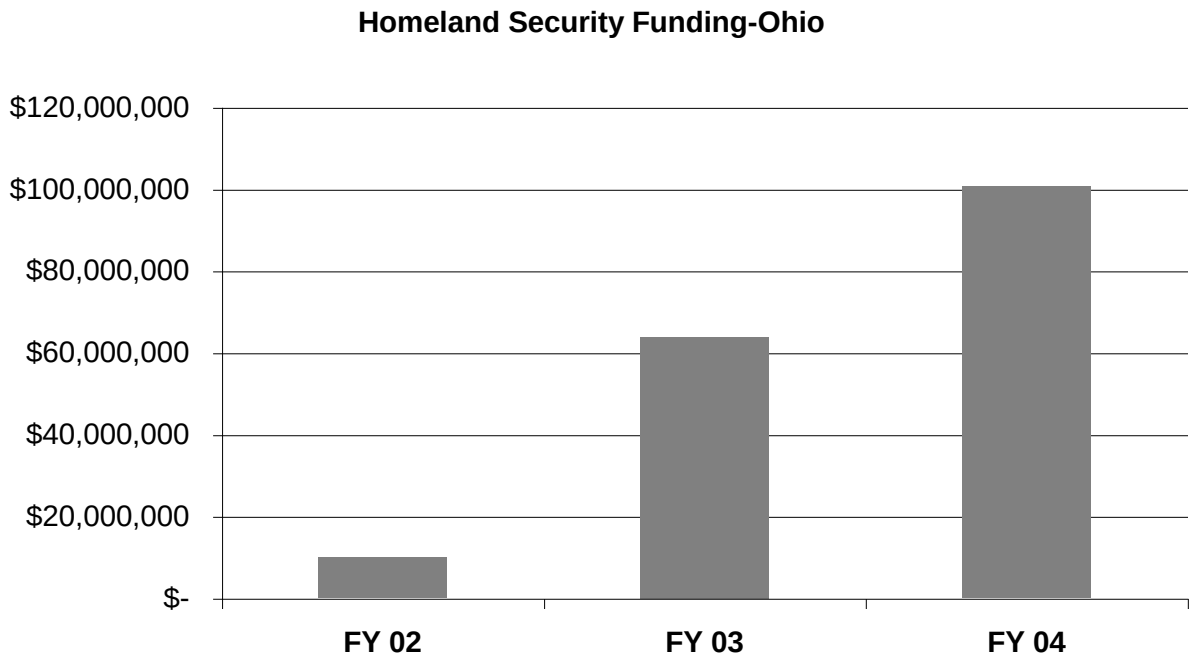

Figure 2 *Federal funding over the last three years* - ***Ohio***

The over $100 million that was awarded to Ohio went to several different agencies within the State that have some type of first responders responsibilities. The Ohio Emergency Management Agency (OEMA) is responsible to distribute the federal funds. Utilizing the required county Risk and Capability Assessment documents, OEMA is able to track what type of agency was given an award (Figure 3). In addition to who got the award OEMA is able to assess what category of equipment was requested with the award (Figure 4*)*. At the time of this research the data reflects what had been requested by the counties, not how much was spent. The director of OEMA, Mr. Dale Shipley reported in an interview that communities need to spend there awards and not sit on them, he went on to say it is difficult for him to ask for more funding from FEMA when we have not spent what we have been given.

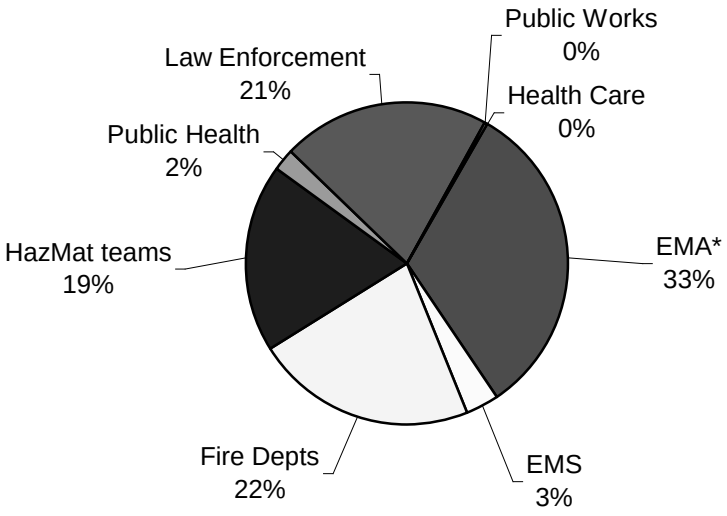

Figure 3 *Equipment request by discipline for2002*

******EMA's have served as the purchasing agent for other disciplines*

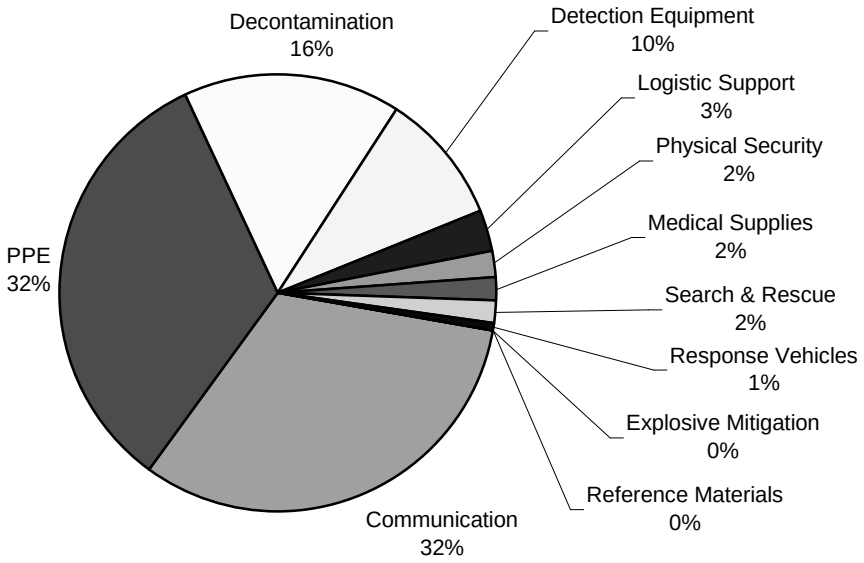

Figure 4 *Equipment requested by authorized category for 2002*

Purpose of the Study

The purpose of this study is to measure the current state of preparedness in Ohio compared to pre-9-11-2001, to evaluate the effectiveness of the federal funding programs and to capture the preparedness issues and concerns of Ohio's fire service.

This study conducted a survey of preparedness by sending out a survey instrument to selected fire departments in Ohio. The selection of participants was based on population protected and selected smaller communities. The study identified a sample group of fire departments across the state based on population protected, selected additional communities based on type of government, village, and city etc. regardless of population protected. The small communities were selected to evaluate readiness and perception of the majority of Ohio's fire departments.

The RAND study used a like criterion, based on census data and identified major population centers. By using this selection process this study can stay relatively consistent with the comparative RAND study. The survey instrument was designed similar to the RAND instrument. In order to make a comparison the investigator felt it is important to address some of the same issues they did. Some of the questions have been changed to better fit the particular issues this study is investigating.

The Research Method

This project used historical, descriptive, comparative research and causal-comparative research methodologies. Historical research was used to show what the level of preparedness was prior to 9-11-2001 and what has been researched prior. Descriptive research was used to create a survey to gather the required comparative data from the selected fire departments in Ohio.

The causal-comparative analysis was used to evaluate the effect of Federal funding on preparedness of Ohio' Fire Service. Literature review substantiated the needs identified and support the historical perspectives.

The RAND Corporation conducted a nationwide survey[1] from March to September 2001, to evaluate local preparedness for a chemical or biological attack (Frickner Jr, Jacobson &, Lois, 2002). The survey was completed by a nationwide sample of state and local organizations from 200 randomly selected counties throughout the United States. In addition to the random sample of counties, 10 counties were handpicked for inclusion based on past WMD terrorist incidents or upcoming events that might have heightened their sensitivity to WMD terrorism.

In all, 1,080 organizations were surveyed, including 117 at the state level (including Washington, D.C.) and 963 at the local and regional levels. The RAND study sent surveys to 443 fire departments included in the 1,080 organizations surveyed.

[1] The RAND survey was sponsored by the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, also known as the Gilmore Commission, after its Chair, Governor James Gilmore of Virginia. The panel was created by Congress in 1999 to assess federal WMD preparedness programs and recommend strategies for effective coordination of preparedness and response efforts between federal, state, and local government and response organizations.

Research Questions

The following questions will be answered by this research:

1. *Is Ohio's Fire Service better prepared to deal with terrorist acts now than pre September 11, 2001*
2. *How effective have federal grant programs been in assisting Ohio's Fire Service in increasing their level of preparedness?*
3. *What is the perception of the fire service to the likelihood of a terrorist attacks on communities in Ohio.*
4. *What special equipment has been purchased or identified to assist in carrying out the mission of WMD*

BACKGROUND AND SIGNIFICANCE

It is important to take a historical look at "Civil Defense" over the years, as we are not dealing with a new concept. It is said history repeats its self and those who do not remember history are condemned to repeat it. We have a new enemy; they have new weapons and techniques. Most concerning is this new enemy has funding and determination (Norval, 1998, 134). During the 19th century the United States was involved in several world conflicts. Through all of these periods our homeland was never under the threat of invasion or attack. Recognizing some Japanese balloon attacks on the Pacific coast and the invasion of some of the Aleutian Islands in Alaska, the homeland has remained safe from significant threat.

During the Korean conflict attitudes started to change with respect to "threat to the homeland" the Cold War started. The Cuban Missile Crisis in 1962 is now known to have been a very dangerous time in our recent history; we came with in days of a nuclear conflict.

Civil Defense was a first responder type organization; they had volunteers, training and equipment. They were trained and equipped to do what we now call "Urban Search and Rescue". This organization faded away in the sixties and the role of Civil Defense became more of a required position in county government. In the 80's the organization was renamed "Emergency Management Agencies" (EMA's) to better reflect there new mission. These agencies varied in their role in the community. Some EMA's maintained their first responder obligations others became strictly planner. We have come full circle, with this new national crisis. EMA's are going back to their roots with the development of "Community Emergency Response Teams" (Federal Emergency Management Agency, 2003) and the Freedom Corps (Freedom Corps, 2002) and other local response initiatives.

On April 24, 1997, the Achilles heel of the modern fire service was exposed on national television. The District of Columbia Fire/EMS Department (DCFEMS) responded to the Washington, D.C. offices of B'nai B'rith, an international Jewish organization, for a suspicious package. Though there have been several chemical and biological incidents over the past few years, this incident received national media exposure and was broadcast live on CNN and other news networks, generating discussions among emergency responders as to the actions that took place. Though the threat was a hoax, the incident revealed many lessons for the fire service to share in preparation for any future threats. The United States Fire Administration (United States Fire Administration, 1997) commissioned a review of the incident.

In 1999 the "Anthrax "threat became a reality to Lake County, Ohio. An office worker at local high school received a letter; upon opening it she found a note indicating there was anthrax in the envelope. Local police and fire responded to the scene and isolated the all workers who were in that area. Communications was established through phone conversations. Local health

officials were consulted; officials at the Ohio Department of Health (ODH) were called. The Center of Disease Control (CDC) was called for technical assistance. After about 1 hour it was decided the letter was a hoax, the workers were told to go home and shower. The letter was recovered, packaged and arrangements were made to get the letter to the ODH lab for analysis. The "exposed" workers were briefed on what is anthrax, the signs and symptoms and the 48 hour window for treatment had they been exposed. (U.S. Army Medical Research Institute of Infectious Diseases, 1998, p.15 - 21)

Our local critique of the incident found very similar findings as were identified in 1997 Washington DC anthrax incident at B'nai B'rith. We were not prepared to deal with biological incidents. The complexity of the incident was unprecedented in our experience. Our local Health Department had never been part of a first response team. We had never requested real time assistance from the ODH or the CDC. We had no equipment to analysis the hazard; we basically could only offer advice and clinical information to those "exposed". It took greater than 2 days to get confirmation of no live agent in the envelope, a time period longer than needed to start effective treatment.

Significance:

The potential impact this study could have on the Fire Service in Ohio is as follows:

- *Evaluate the readiness of Ohio's Fire Service,*
- *Provide valuable information to funding agencies and others who have interest in the state of readiness and perception of risk by Ohio's fire service*
- *Lacking a national policy on response to terrorist attacks; this study could serve as a guide to regional response development and better sharing of resources.*
- *Provide a comparative set of data to allow Ohio's Fire Service to benchmark and future analysis.*
- *Educate fire service leaders on the issues of terrorism preparedness, the national threat, and expose "best in practice" efforts in Ohio.*
- *Assist planners and responders in justifying multi-discipline local or regional partnerships to local government agencies or other policy makers.*

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LITERATURE REVIEW

In the classic book "The Art of War" (Tzu, 1963, p.114), Sun Tzu, a Chinese general, circa 500 B.C. said: "It is the doctrine of war not to assume the enemy will not come, but rather to rely on one's readiness to meet him; not to presume that he will not attack, but rather to make one's self invincible." Preparedness and defense of the homeland is not a new concept.

Over the last five years our nation has changed significantly. Our homeland has been attacked at a scale unprecedented in our history. I found several very prophetic reports in the process of preparing this study: In a paper called "Defending America in the 21st Century" the authors make the following observation, "To date, US homeland defense efforts have been like the proverbial glass that is both half full and half empty. Over the past five years, US efforts to address these new challenges have been prodigious yet inadequate. We have fallen well short of putting into place the resources and the organizational structure necessary to meet the new threats"(Cilluffo, Collins, de Borchgrave, Goure &, Horowitz, 2000). In that same report a highly placed official on the National Security Council (NSC) staff reported that President Bill Clinton believes that "within the next ten years, there was a 100 percent chance of a chemical or biological attack on our country"(Richard Clarke, 2000). I am concerned that we have not taken the threat seriously and some would still make the argument it won't happen here.

In a recent volume of "Perspectives on Preparedness"(Members of the Executive Session on Domestic Preparedness, 2001) an interesting analogy is made, like the homeowner contemplating the risk of a serious residential fire, it is prudent to purchase insurance to cover the *low probability* –but nontrivial risk – of a *high consequence* loss from a WMD terrorist attack. We must promote this philosophy to our citizens and leadership. There is a public expectation that we can deal with any disaster that might impact our communities.

The bombings of the New York City World Trade Center in 1993 and the Alfred P. Murrah Federal Building in Oklahoma City in 1995, the Tokyo subway sarin attack in March 1995 gave rise to a concern about this nation's preparedness for the devastating effects of such attacks. Congress recognized the need to address the issue of "Terrorism Preparedness" in 1996. The Defense against Weapons of Mass Destruction Act of 1996, commonly called the Nunn-Lugar-Domenici Act, or Nunn Lugar II, appropriated $23 million to the Department of Defense (DoD) to increase first responder preparedness against potential acts of chemical or biological terrorism. We have increased our spending levels since the first appropriation; as of March 2003, the U.S. Department of Homeland Security has made available more than $4.4 billion dollars in funding for grants this year alone.

It is clear that a significant amount of money has been made available to first responders to assist them in preparing for this new national threat of terrorist attack. Ohio has received a substantial share of federal money under the Department of Homeland Security, State Homeland Security Grant program; in June 2003 Ohio received $46.3 million with 94 percent of those funds going to first responders. In Lake County we have received over one million dollars to assist in our local preparedness efforts.

The Homeland Defense Grant funding mechanism in Ohio is based in part on a local assessment process. The fiscal awards are also based on population protected and special considerations. The OEMA require that every three years each county conduct a vulnerability and capability assessment of the entire county. This assessment evaluates numerous agencies and response issues with in each county.

The process evaluates the following agencies in each county with regard to capability and needs:

- Emergency Management
- Local Health Department
- Hospitals
- Public Works
- Law Enforcement
- Fire Service
- Emergency Communication
- Local Government

This assessment then provides a blueprint for the counties spending plan. The local Homeland Defense Advisory Committee prioritizes and authorizes the expenditure of awarded money. One of the problems with this process is Department of Homeland Security changes the spending rules every grant cycle, to allow for additional issues to be addressed and adds more equipment to the Authorized Equipment List. This process is an important adjustment made by the federal government to address the changing technologies and philosophies. This process does create problems at the local level, as the local committees are required to address the needs identified in the assessment that has been done two to three years earlier.

Lacking a national guideline on what local communities should spend that money on, we are left to debate locally without the global knowledge of the problem we are trying to prepare for. Local responders are defending and reacting to what we now know is an international terrorist attack on our homeland. Richard A. Falkenrath in "The Problems of Preparedness" (Falkenrath, 2000, p. 11) notes "National Security has always been the unique domain of the

federal government, so there is no reason to expect that state and local governments would take these interests into account". Others have identified the lack of national policy as component of our local response dilemmas. Former Senator Warren Rudman addressed the issue of the need for a national standard in a hearing before the House Government Reform Subcommittee on National Security, Emerging Threats and International Relations. He said "Local first responders to emergencies will not be able to effectively react to a terrorist attack until they have a standard for response" (Albanesius, 2003). Falkenrath also recognizes the lack of an overarching national strategy on Domestic Preparedness programs. (Falkenrath, p.10)

In a recent report from the *Center for Strategic and International Studies* (Cilluffo et al., 2000, p.9) one of many conclusions the authors came to is as follows: "U.S. homeland defense efforts have been reactive, disjointed, and focused on post facto consequence management. In addition to the critically important issues of crisis and consequence management, we must see homeland defense in terms of preventing, deterring, disrupting, and attributing attacks on the homeland"

The need for specialized detection equipment is critical, every incident credible or not would have to be considered a real event until proven otherwise. A hoax's can paralysis a community. In the FEMA (United States Fire Administration, 1997, p. 21) report on the B'nai B'rith incident the lack of affordable specialized equipment to detect and characterize chemical and biological agents was noted as a serious deficiency. Falkenrath reported in "The Problems of Preparedness" (Falkenrath, 2000, p. 24-25) the need not only for the specialized detection equipment but to consider dual-use equipment. Not to purchase such a specialized expensive piece of equipment that will in all probability never be used, and if it was needed no one would remember how to use it.

In a report called “Preparing for Terrorism: What Governors and Mayors Should Do” (Pangi, 2001) they encourage managers to acquire equipment that has multiple purposes. In the best selling book “Germs” the authors provide an excellent insight into the problems of specialized equipment within our national response teams and the issues of detection at a local responder level. (Miller, Engelberg &, Broad, 2001, p. 280-286)

In an television interview (Frontline First Responders, 2003) Harold Schaitberger, the president of the International Association of Firefighters, reported that two years latter (9-11-2001 to 9-11- 2003) America’s frontline emergency personnel still lack basic protective equipment and remain unprepared to respond to a large-scale attack using Weapons of Mass Destruction.

In a cooperative study the Federal Emergency Management Agency (FEMA) and the National Fire Protection Association (Federal Emergency Management Agency & the National Fire Protection Association, 2002) found that only 13% of fire departments could handle a HAZMAT and EMS incident involving chemical biological agents and 10 injuries with local trained personnel.

- Only 11% can handle the incident with local specialized equipment.
- 40% of all departments consider such an incident outside their scope.
- Only 21% have written agreements to direct use of non-local resources.
- All needs are greater for smaller communities.

Richard Preston describes in great detail the events associated with this anthrax attack in his book “Demon in the Freezer” (Preston, 2002, chap 1 & 7). The book is primarily directed at the threat and possibility of a smallpox outbreak. The several chapters give insight into the U.S. Government’s response to the anthrax attack of 2001. The finding of a “weapons grade”

biological material was of significant interest and concern to all investigating this particular anthrax attack. As of the time of this paper no one has been found responsible for the anthrax attacks.

In the book Ataxia: The Chemical and Biological Terrorism Threat and the US Response. (Smithson & Levy, 2000, p. 288) The author identifies an age-old problem with Federal programs: Preparedness versus Pork. The General Accounting Office has labeled the federal preparedness programs a fractured mess. In recognizing the opinion of first responders: "These heroes of everyday emergencies, many whom have seen first-hand the misfortune of headline-making natural and manmade tragedies, are a candid lot. They know when pork is taking precedence over preparedness. So far, that is their assessment of the federal effort." (Smithson & Levy, 2000, p. 298)

It is clear there has been a philosophical disconnect between the policy makers and the first responders. Recent events have forged in fire, stronger relationship and partnerships, a better understanding of roles and responsibilities and an overall improvement in local capabilities. Responses to incidents involving or thought to be involving weapons of mass destruction are no longer the sole responsibility of the Department of Defense. Federal authorities have recognized the value of local responders and have taken major steps to improve their capabilities.

PROCEDURES

A survey instrument (Appendix 1) was designed to include questions similar to those in the original RAND survey and questions that would serve to address the purpose of this research. The instrument consisted of thirty-four questions with some questions have multiple sub-questions.

The following areas were addressed in the survey instrument:

- Organizational Information
- Organizational Experience and Perceptions
- Emergency Response Planning Activities
- Responding to Specific WMD Terrorist Incidents
- Assessment of Federal Programs

Communities were selected based on population protected and geographical distribution across the state (Figure 5). This sample rational was similar to that used by in the 2001 RAND Preparedness Study (Frickner Jr, Jacobson &, Lois, 2002). Surveys were sent to forty-two communities (appendix 3), either by mail, email or hand delivered.

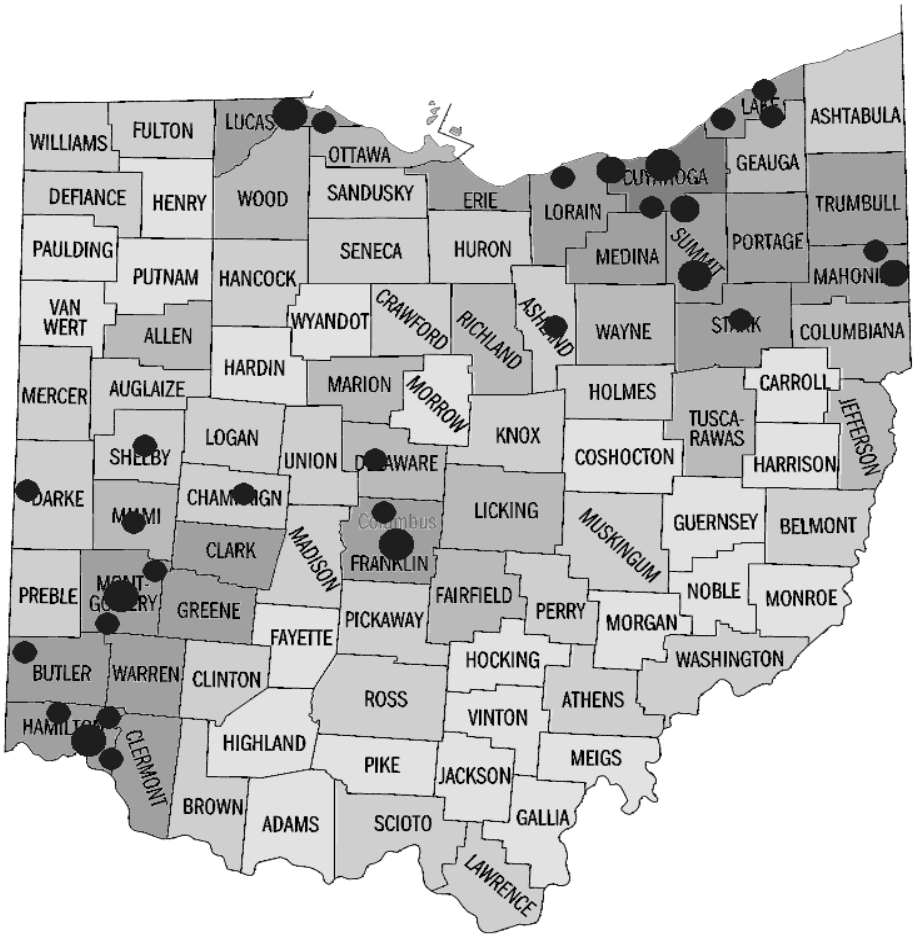

Figure 5. *Geographical location of selected communities*

Federal funding was made available to all counties in the state, thus those smaller communities did have an opportunity to address the issues of WMD preparedness. The sampling rational was to survey fire departments that protect a significant portion of the population of Ohio. By sampling all the major cities and selected smaller communities the study was able to create a sample base that protected 4,556,266 people or 40% of the population of Ohio, the 2000 US Census reports Ohio's population at 11, 353,140. The returned surveys reflect a protected population of 3,724,418 or 33% of the population of Ohio.

Surveys were mailed with a cover letter and a stamped pre-addressed envelope. Surveys were also hand delivered to Fire Chiefs and senior staff from the selected communities. It was felt there would be a better return rate if face-to-face contact were made between the investigator and those selected participants. As a final attempt to collect data a survey in M.S. Word format was emailed to those communities that had not responded to the mail request. In addition to those missing communities an email request was made to current and former OFE students assuming a high response rate based on an expected appreciation for the research project.

Table 1 *Survey Distribution*

	Distributed		**Returned** [b]	
	N	%	*N*	%
Mailed	20	48	16	60
Hand delivered [c]	6	14	4	14
E-mailed	16	38	7	26
TOTAL	42	100	26	62%

[b] Returned as of June 7, additional surveys are expected.

[c] One survey was returned in person, others were returned through the mail

Survey results were entered into an Excel spreadsheet to facilitate manipulation and tabulation of the data. A formula was written to accommodate the update of data as new surveys were entered. Utilizing such a program also allowed the investigator to create graphs and other visual depictions of the data.

Table 2 *Surveyed Communities Population (Returned)*

		Total	%
Small Communities	(< 20,000)	7	26
Medium Communities	(20,001 – 50,000)	7	26
Large Communities	(50,001 >)	13	48
TOTAL		27	100

Limitations of the Study

The survey instrument did not ask the name and rank of the person completing the survey. As some of the questions were very subjective the answers would be option, if that person was not knowledgeable about the issues and particular capabilities of their organization the response might be suspect. In some of the returned surveys not every question was answered.

The sample size of surveyed fire departments was relatively small compared to the total community of Fire Departments in Ohio, less than 4 %. However the protected population of those sampled communities is significant, greater than 25 %. The study wanted to assess how well is Ohio protected against the threat now vs. then, thus a population-based criteria was selected.

RESULTS

Is Ohio's Fire Service better prepared to deal with terrorist acts now than pre September 11, 2002?

Ohio's Fire Service is better prepared to deal with the treat of terrorist act now than pre 9-11-2001. Fire departments across the state have purchased equipment and formed relationships to assure some capability to respond to a threat or an actual WMD event. All major urban areas and over 50% of the other surveyed communities have specialized equipment available to local first responders. The study found 85% of the surveyed fire departments had responded to some form of "terrorist" incident in the last five years. These incidents included hoax situations, bomb threats and good intent type calls (white powders).

The majority of departments reported there current written plan is average to above average in addressing the threat of concern. A majority of departments indicate they have an average to above average knowledge and expertise to deal with the threat of concern. One department reported inadequate expertise with one department reporting excellent expertise. The majority of departments report a below average ability with regard of equipment available to manage there threat of concern. On the issue of training, the survey indicated a wide margin of readiness; the larger departments reported good to excellent training. The ability to communicate and coordinate is above average to excellent in the study group. The overall organizational preparedness to the threat of concern was average to below average in the study group.

Fire Departments now have plans to respond to WMD events that are in cooperation with the state and national planning strategies. In part because the Ohio Emergency Management mandates a Terrorism plan or annex be added to the each counties Disaster Plan a significant increase in integrated planning is noted. (Figure 6)

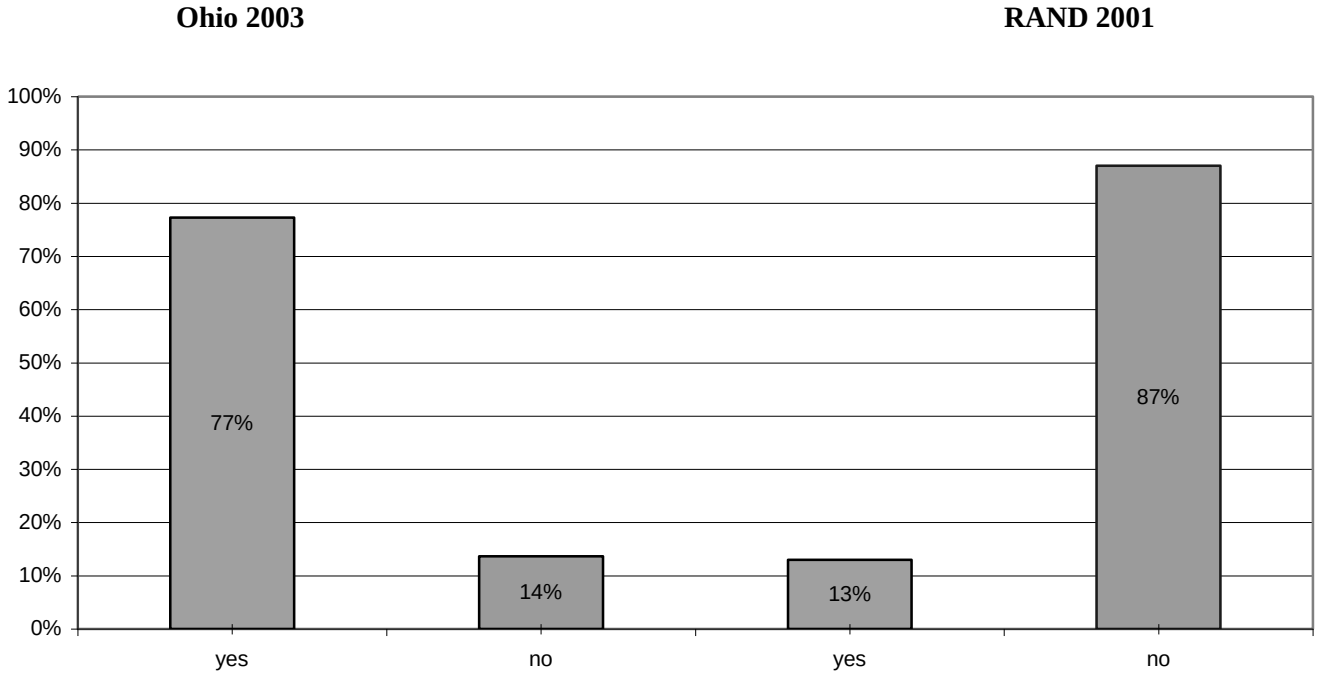

Figure 6 *Integrated Response Plan RAND 2001 vs. Ohio2004*

The areas of need were in planning, coordination, training and logistical areas (Figure 7). There would appear to be enough information and reference material on the WMD issues as only 27% reported the need for this type of resource. The area of exercise and training was reported by over 65% of respondents as an area that most strengthen their response. New or more up-to-date equipment was identified by 35% of those surveyed departments.

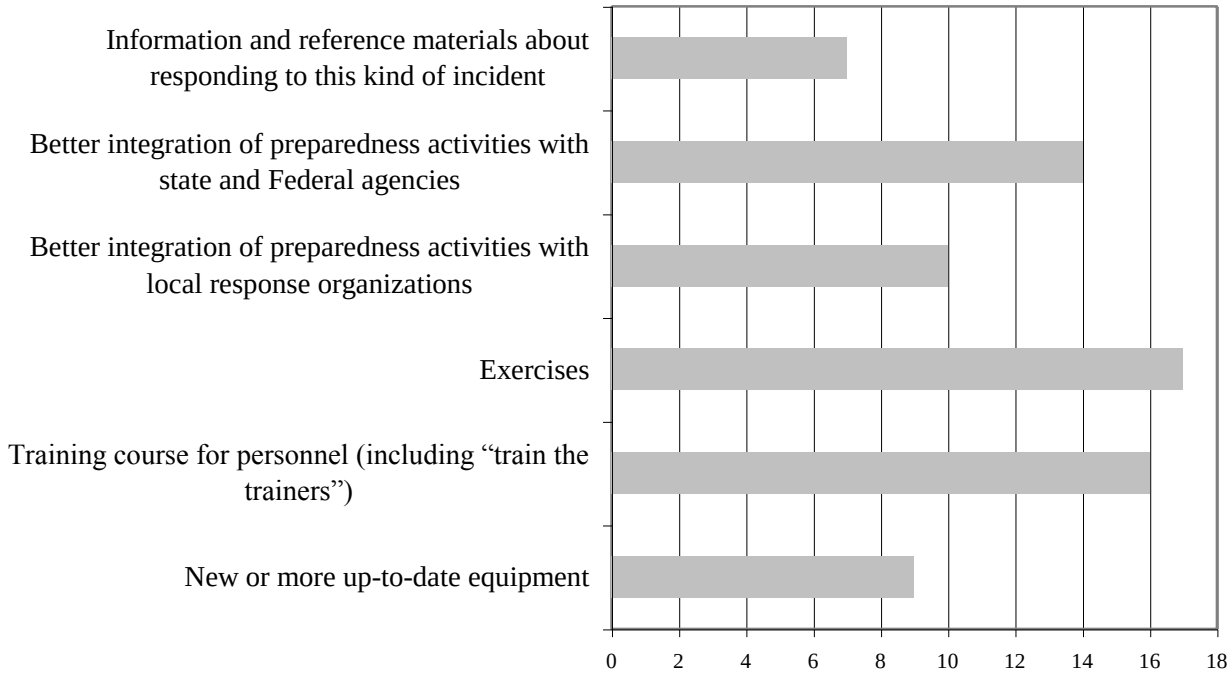

Figure 7 *Programs that would improve response capability*

How effective have federal grant programs been in assisting Ohio's Fire Service in increasing their level of preparedness?

It is clear the fire service has benefited from Federal programs. A significant increase the equipment category and funding was noted 2001 to 2003 (figure 8). The research indicates 48% of those surveyed had a local ability to respond to an incident involving Weapons of Mass Destruction, the 2001 RAND study found only 11% of fire departments had capability. The RAND study found only 15.5% of those Fire Departments surveyed applied for funding this study found 92% of surveyed departments had some form of Federal aid.

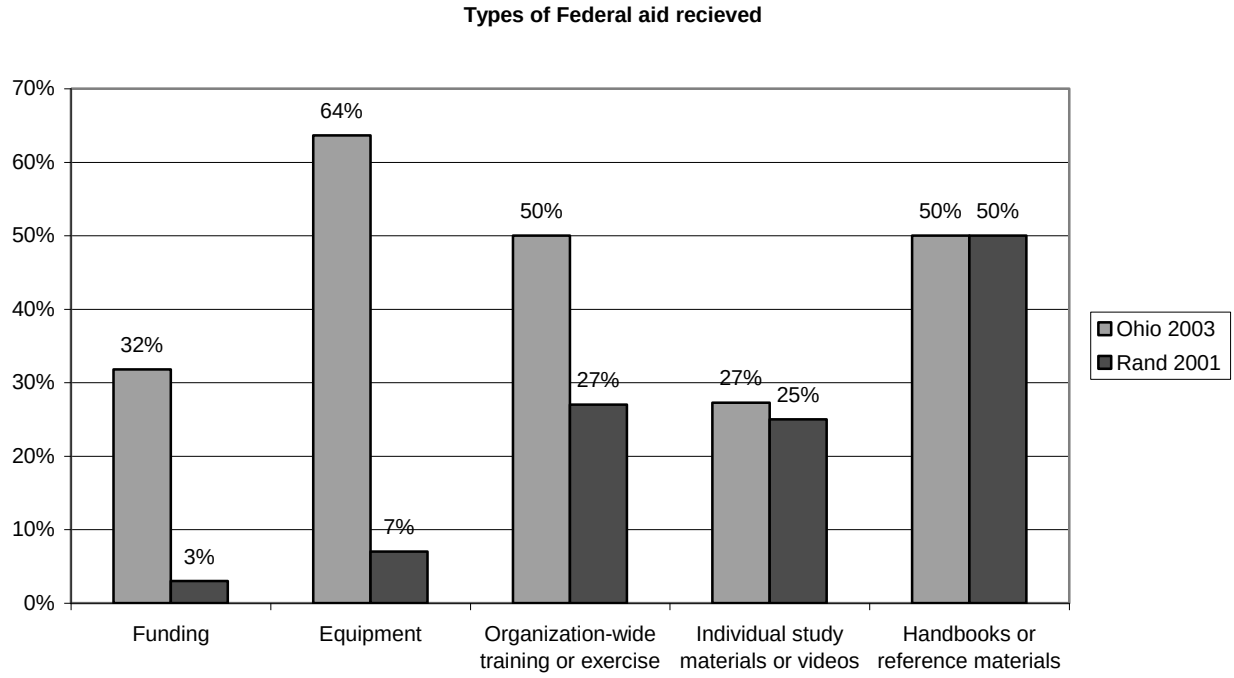

Figure 8 *Federal aid received RAND 2001 vs. Ohio 2004*

What is the perception of the fire service to the likelihood of a terrorist attacks on communities in Ohio.

The study wanted to know what local responders perception of the possibility of an incident involving Weapons of Mass Destruction and what type of weapon they felt would be most likely used. Based on that assessment of hazard and risk the study asked several questions about current capability and preparedness. The series of questions on capability and preparedness were based on the type of incident the department thought is the highest concern to them. Those results are indicated in Table 5, indicating an almost equal concern for conventional explosives and chemical weapons.

Table 5. *Which of the four types of WMD incidents is most important for your organization to prepare for?*

Biological	5
Chemical	10
Conventional Explosives	11
Radiological	1

Participants were asked how they rated the risk of terrorist incident in their community on a 0 to 4 scale and to rate that risk by type of attack. If we compare the perception of risk reported by our survey participants (Figure 9), to the Department of Homeland Defenses (DHD) national alert levels at this time, we would find the participants would have their communities at much higher threat level than the Department of Homeland Defense has issued. During the sample period the DHD treat level was yellow (elevated) on a 5-color scale.

There are five Threat Conditions, each identified by a description and corresponding color. From lowest to highest, the levels and colors are:

Low = Green;

Guarded = Blue;

Elevated = Yellow;

High = Orange;

Severe = Red.

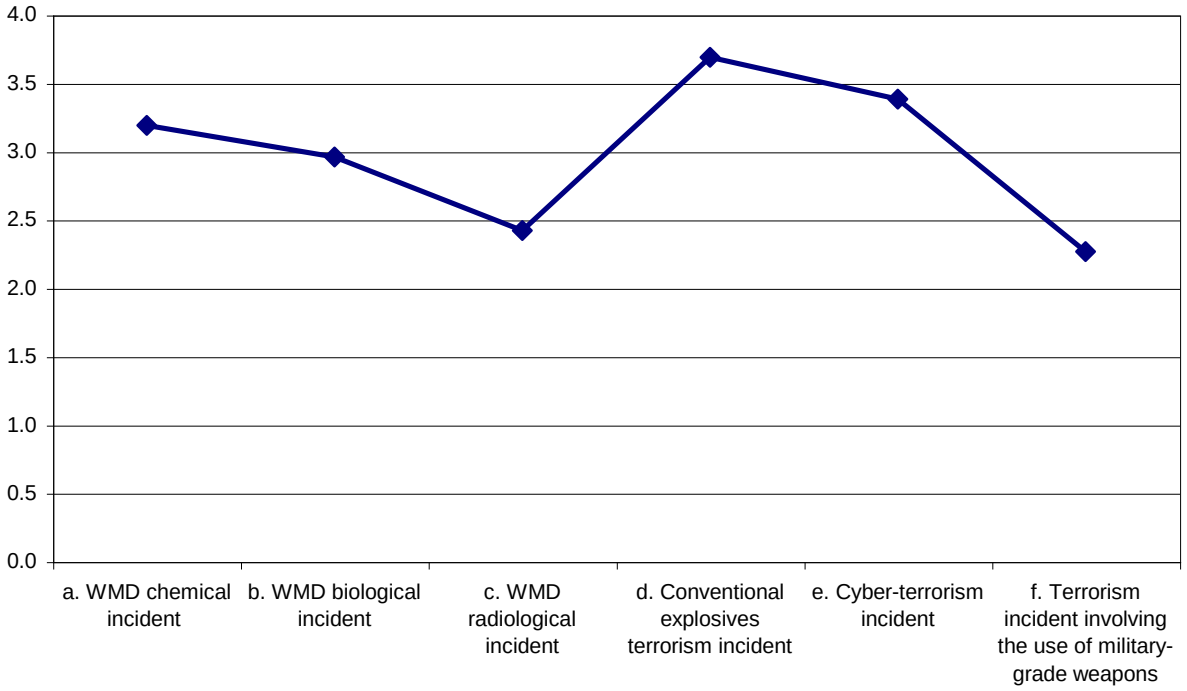

Figure 9 *Perception of risk by type of incident*

The survey results indicated that all of the respondents ranked the possibility of a terrorist attack in their jurisdictions very high, all reported over a 2.5 (likely) on a 0 to 4 scale (figure 19) with the average score of 3 (very likely).

On a similar question regarding the possibility of a natural disaster occurring in their communities, the study group reported; 70% scoring a 3 (somewhat likely) and 30% a 4 (very likely). To this researcher these numbers would indicate an appreciation and recognition of the very real threat of natural disasters and a sense of equal concern for terrorist attack.

What special equipment has been purchased or identified to assist in carrying out the mission of WMD response

The majority of surveyed departments have special equipment available to manage incidents that may involve WMD. Over 80% of surveyed departments report equipment to detect a radiological or chemical threat. The biological threat remains a challenge as only 42% of department report the ability to detect the biological agents. Approximately 77% of respondents report having some form of personnel protective equipment (PPE), either Level A or B suits available. In the ability to treat a chemical or biological threat, 50% of respondents report some form of medical cache or antidote to treat a chemical exposure and only 38% report the ability to treat a biological exposure or infection. In a comparison of RAND 2001 to Ohio 2004 we have made some improvement in response ability (Table 4) the most significant improvement in being able to handle a WMD incident at the local level, 48% of the surveyed departments report being do handle an incident, the RAND study found only 11% of department reported that capability

Table 4

Fire Departments report:	*RAND*	*OHIO*
Handle a WMD incident with local equipment	11%	48%
Consider such an incident outside their scope	40%	33%
Handle a WMD/hazmat incident involving biological	13%	46%

When asked what issues are of most concern when responding to incidents involving WMD, 62% indicated the primary concern is “mass care” e.g., bulk distribution of food, shelter, and basic necessities a major concern with. Crowd control was reported by 42% as a primary concern (Figure 10)

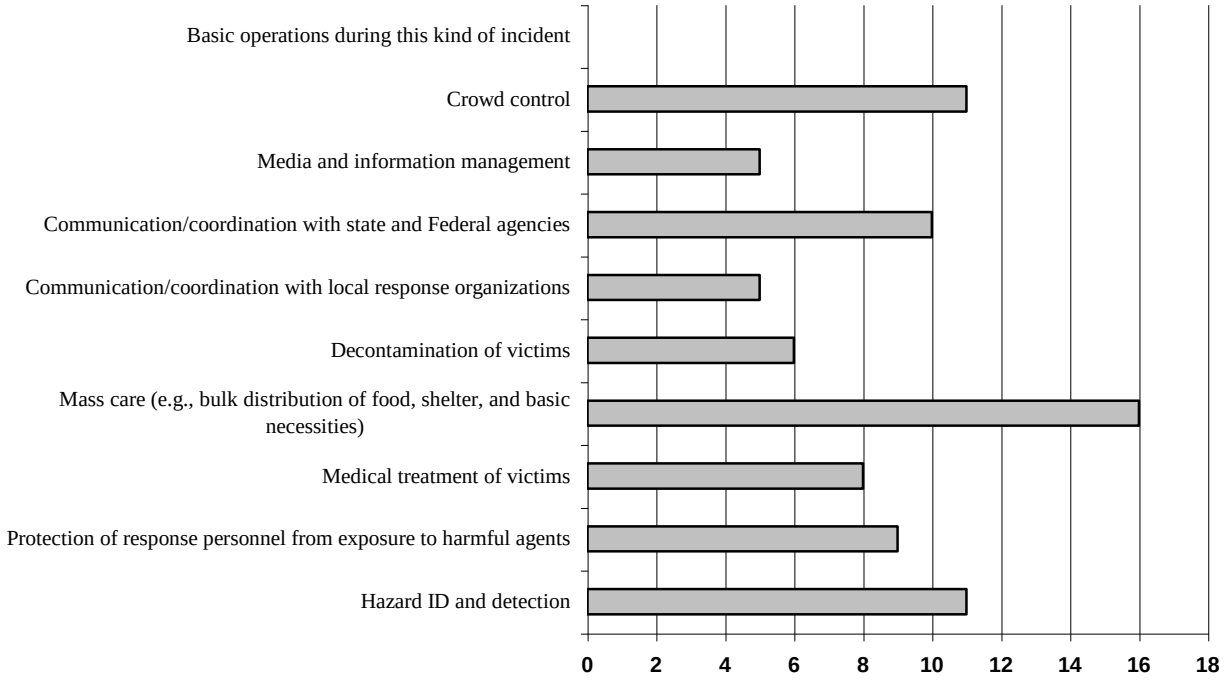

Figure 10 *Areas of concern in dealing with responding to WMD incidents*

Conclusion:

Ohio is better prepared for an incident involving Weapon of Mass Destruction. Major urban areas have the best response systems in place; they have received the greatest amount of money. Major urban areas by the nature of population density and target availability should be better prepared than other areas of the state.

Funding methods need to be better connected to the actual needs of responders. A statewide coordination for the purchase of major response asserts should be developed. Regional coordination should be stressed to allow for equal protection and response capability for all citizens of Ohio.

Fire departments reported concerns in non-traditional areas, mass care & crowd control being the best examples of these concerns. This finding might reflect the transition of the modern fire service to be as effective in emergency planning as they are in emergency response. The recognition of these non-traditional areas of concern might also be reflective of the efforts to implement a Unified Command approach to incident management. The more the fire service learns of the needs and concerns of other first response agencies the better the out come of such incidents will be and vise versa.

DISCUSSION

The major population centers in Ohio are better protected against the threat and consequences of a terrorism attack involving Weapons of Mass Destruction, when compared to the results of the 2001 RAND study. A gap still exists in the preparedness level of smaller communities in Ohio, that gap might be reflective of relative risk and not necessarily be a significant weakness in overall preparedness.

In completing this study the author found he had asked more questions in the survey than he was prepared to make part of the research. There remains additional data in the results that might be of value to other researchers.

The area of perception of risk is a particularly interesting topic. If we are to justify resources to the respond to WMD incidents we must base that justification better than we do now. A gap may exists between local perception of risk and actual risk, the fire service seems to base risk on what certain individuals think (intuition) more that on actual threat intelligence (fact).

RECOMMENDATIONS

Ohio's fire service has been exposed to a significant of money to improve response efforts with seemingly little oversight. In an effort to distribute funds OEMA has done an outstanding job of getting the money to local EMA's, leaving it to local Homeland Security Advisory Committees to distribute locally. The amount of money available to assist Ohio's first responders should dictate a more coordinated effort to assure efficient and effective programs are established. Each county will consider them selves as in need and high risk; therefore deserving funding to a risk and hazard that might not exists. A regional approach would provide a better organizational and operational management model to meet an area need. Other states have set up similar structures, strategically locating specialized resources with given time or distance response criteria. This effort would require extensive cooperation not only county to county but also agency to agency with in a county. The current funding program is not guaranteed into the future, efforts to coordinate regional response should be made now, not when the funds are no longer available. Strategic planning would involve several years of study and implementation to be effective.

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APPENDIX 1 – SURVEY INSTRUMENT

TERRORISM PREPAREDNESS

A

SURVEY OF OHIO'S FIRE SERVICE

An applied research project for the

Ohio Fire Executive Program

April 2004

Chief Frank Whittaker

Painesville Township Fire Department

This survey is part of my research paper exploring the readiness of Ohio's fire service today as compared to pre September 11, 2001 and the effects of federal funding on that readiness. I am able to make such a comparison in major part due to a national survey conducted by the RAND Corporation in early 2001. This survey is based in part on that national survey[2] conducted by the RAND Corporation. I am sampling all the major population centers in Ohio as well as selected representative smaller communities.

Your time is greatly appreciated in filling out and returning this survey. Not only is this project for a grade, I think the results might help communities evaluate comparative readiness across the State of Ohio

INSTRUCTIONS

- Please use a dark colored pen or pencil to fill out the survey.
- Mark only one circle per item, unless otherwise instructed.
- As the designated representative of your organization, please fill out all the questions, to the best of your ability, from the perspective of your organization as a whole.
- Please return the completed survey in the enclosed envelope

[2] Measuring and Evaluating Local Preparedness for a Chemical or Biological Terrorist Attack: sponsored by the Third Annual Report to the Presidents and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, December 15 2001(Fricker.R.D. Jacobson. J.O. Davis. L.M.) www.rand.org/nsrd/terrpanel/.

Section 1:

Organizational Information

1. Which of the following categories best describes your agency?
    - Volunteer department only
    - Paid department
    - Combination department (both volunteer and paid personnel)

2. Does your organization specialize in any of the following function, in addition to its core firefighting role? (Mark all that apply)
    - Hazardous materials containment and/or clean-up (HAZMAT)
    - Emergency Medical Services (EMS)
    - Technical Rescue
    - WMD Response
    - None of the above -> Skip to question 3

2a. Which of the following services does your organization provide regionally or to another jurisdiction as part of a mutual aid agreement? (Mark all that apply)
    - Hazardous materials containment and/or clean-up (HAZMAT)
    - Emergency Medical Services (EMS)
    - Technical Rescue
    - WMD Response
    - None of the above

3. What is the size of your fire department? (Please give your best estimate)

    If EMS is provided by firefighters, only report the firefighters
    - Total number of response personnel _____
    - Number of paid firefighter personnel_____
    - Number of volunteer firefighter personnel_____
    - Number of EMS personnel_____
    - Number of total calls responded to in the last year (2003)_____

4. What type of jurisdiction does your organization serve?
    - Township
    - City
    - Fire District
    - Village
    - County
    - Other (specify): _____

5. What is the size of the population your organization serves?
    - 1-5,000
    - 5,001-20,000
    - 20,001-50,000
    - 50,001-250,000
    - 250,001-1,000,000
    - 1,000,001+

7. What is your organizations annual budget?
    - $10,000-50,000
    - $50,001-100,000
    - $100,001-500,000
    - $500,001-1,000,000
    - 1,00,001-5,000,000
    - 5,000,001+

8. What is your primary source of revenue?
    - General fund (Income tax)
    - Fire Levy
    - Subscription
    - Donations
    - Fund Raising
    - Contract Service
    - Other_____

Section 2:

Organizational Experience and Perceptions

9. How would you rate the likelihood of the following types of major terrorism incidents (e.g., more than 30 individuals with serious injuries) occurring within the United States in the next 5 years?

1. Very Unlikely 2. Somewhat Unlikely 3. Somewhat Likely 4. Very Likely

a. WMD chemical incident _____
b. WMD biological incident _____
c. WMD radiological incident _____
d. Conventional explosives terrorism incident _____
e. Cyber-terrorism incident _____
f. Terrorism incident involving the use of military-grade weapons _____

10. How would you rate the likelihood of the following types of major terrorism incidents (e.g., more than 30 individuals with serious injuries) occurring within your jurisdiction or region in the next 5 years?

1. Very Unlikely 2. Somewhat Unlikely 3. Somewhat Likely 4. Very Likely

a. WMD chemical incident _____
b. WMD biological incident _____
c. WMD radiological incident _____
d. Conventional explosives terrorism incident _____
e. Cyber-terrorism incident _____
f. Terrorism incident involving the use of military-grade weapons _____

11. How would you rate the likelihood of a significant natural disaster (e.g., earthquake, hurricane, tornado, flood, etc.) occurring within your jurisdiction or region in the next 5 years?

1. Very Unlikely 2. Somewhat Unlikely 3. Somewhat Likely 4. Very Likely

12. Have any incidents of terrorism (including hoaxes) occurred, been attempted, or threatened within you jurisdiction or region in the past 5 years that required a response by your organization?

Yes (briefly describe):

_____

_____

_____

No -> Skip to Section 3,

12a. Did any of these incidents involve the use (or threat of use) of any of the following? (Mark all that apply)

- o Chemical, biological, or radiological weapons
- o Conventional explosives
- o Cyber-terrorism
- o Military-grade weapons

Section 3:
Emergency Response Planning Activities

13. Does your organization have mutual aid agreements with other city, county, state, or regional organization for disaster and emergency response?

- o Yes, for disaster and emergency response in general
- o Yes, for WMD incidents specifically
- o No

14. Does your organization have a written emergency response plan?

- o Yes
- o No- Skip to question 16

15. Does your organization's written emergency response plan…

a. Address operational areas and jurisdictional boundaries?	Yes	No
b. Include mutual aid agreements to provide additional resources?	Yes	No
c. Include a response plan for handling the media?	Yes	No

15a. Is your organization's written emergency response plan integrated with other local, state, and federal response plans?

- o Yes
- o No

16. Does your organization stock or have access to any of the following types of equipment for WMD incidents? (Check all that apply)

- o Monitoring and detection equipment for chemical agents
- o Monitoring and detection equipment for biological agents
- o Monitoring and detection equipment for radiological agents
- o Personal Protective Equipment (PPE) Levels A or B
- o Personal Protective Equipment (PPE) Level C
- o Medical caches and/or antidotes for chemical agents (e.g., atropine sulfate autoinjectors, 2-PAM, cyanide antidote kits)
- o Medical caches and/or antidotes for WMD biological agents
- o

17. Does your organization have any unit(s) specially trained and equipped to respond to WMD incidents?

- o Yes- Continue with Question 17a
- o No- Skip to Section 4

17a. What types of WMD incidents are they trained to respond to? (Mark all that Apply)

- o Chemical
- o Biological
- o Radiological
- o Large-scale conventional explosives

Section 4:
RESPONDING TO SPECIFIC WMD TERROIST INCIDENTS

18. Which of the four types of WMD incidents is <u>most important</u> for your organization to prepare for?

- o Biological
- o Chemical
- o Conventional Explosives
- o Radiological

19. How high a priority is it for your organization to spend resources preparing for the type of WMD incident you selected on question 18?

- o High priority
- o Somewhat of a priority
- o Low priority
- o Not at all a priority

Considering the type of WMD incident you selected on question 18, please rate your organization's level of readiness on a scale of 1 to 5, with 1 being INADEQUAE and 5 being EXCELLENT. Please circle one number for each question on the 5-point scale given below

20. Your organization's written emergency **plan** to be used during a response to an event similar to the one selected above is:

INADEQUATE				EXCELLENT
1	2	3	4	5

21. Your organization's **knowledge and expertise** about response to this type of even are:

INADEQUATE				EXCELLENT
1	2	3	4	5

22. Your organization's **equipment** to respond to this type of even is:

INADEQUATE				EXCELLENT
1	2	3	4	5

23. Your organization's **training** to prepare for this type of even is:

INADEQUATE				EXCELLENT
1	2	3	4	5

24. Your organization's ability to **communicate and coordinate** with other organizations likely to be involved in a response to this type of event is:

INADEQUATE				EXCELLENT
1	2	3	4	5

25. How would you rank your organization's overall preparedness to respond to this type of event?

INADEQUATE				EXCELLENT
1	2	3	4	5

26. Again, for the type of WMD incident you selected in Question 18, which of your response capabilities do you think are the weakest? (Mark all that apply)

- o Hazard ID and detection
- o Protection of response personnel from exposure to harmful agents
- o Medical treatment of victims
- o Mass care (e.g., bulk distribution of food, shelter, and basic necessities)
- o Decontamination of victims
- o Communication/coordination with local response organizations
- o Communication/coordination with state and Federal agencies
- o Media and information management
- o Crowd control
- o Basic operations during this kind of incident
- o None of the above

27. What item(s) would be **most** helpful to strengthen the response capabilities you indicated as weaknesses in Question 26? (Mark all that apply)

- o New or more up-to-date equipment
- o Training course for personnel (including "train the trainers")
- o Exercises
- o Better integration of preparedness activities with local response organizations
- o Better integration of preparedness activities with state and Federal agencies
- o Information and reference materials about responding to this kind of incident
- o Other (please specify) _____

Section 5

ASSESSMENT OF FEDERAL PROGRAMS

28. Since 1996, has your organization received funding, training, equipment, or other WMD preparedness support available from the Federal government (from your local EMA or direct application)
    - Yes- continue to next question
    - No- Skip to the end

29. Please indicate below the types of Federal support your organization has received. (Mark all that apply)
    - Funding
    - Equipment
    - Organization-wide training or exercise
    - Individual study materials or videos
    - Handbooks or reference materials
    - Other (please specify):_____

30. Was your organization consulted prior to receiving any Federal support as to your needs?

    - Yes
    - No
    - Don't know

31. If Federal WMD resources (funds etc) were no longer available would your organization be able to sustain a readiness capability equal to what you desire for your community?
    - Yes
    - No
    - Don't know

Would you like a copy of the results? If so provide an postal or email address:

_____

_____

_____

_____

_____

Comments_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your time and consideration, please return the survey in the enclosed envelope.

APPENDIX 2 – SURVEY RESULTS

APPENDIX 3 – SURVEYED COMMUNITIES

Surveyed Communities	Population Protected
Toledo	309106
Columbus	1500000
Dayton	162669
Cleveland	476398
Youngstown	80829
Cincinnati	323885
Willoughby	22582
Howland Twp	19450
Plain Twp	51997
Cuyahoga Falls	49236
Akron	214663
Canton	79792
Miami Twp	36632
Sidney	20327
Jerome Twp	4000
Solon	22000
Lorain	67704
Colerain Twp	60144
Kent	27500
Greenville	13295
Springfield	64132

Forest Park	19365
Westlake	32160
Painesville Twp	15500
Green twp	55560
Butler Twp	8382
North Olmsted	34113
Concord Twp	15282
Vandalia	14603
Geneva	18400
Ashland	21249
	3,840,955