

JOINT FIRE AND PUBLIC WORKS TEAM

Executive Analysis of Fire Service Operations in Emergency Management

Development of a Joint Emergency Response Team between Fire and Public Works

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Certification Statement

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

Signed: _____

Abstract

Because the fire department routinely responds to incidents requiring heavy equipment, a joint emergency response team between the fire department and public works was investigated. Evaluative research was conducted using surveys, interviews and experiments on skill retention. Research questions looked at existing joint response teams, types of incidents where utilized, types of joint trainings, skill and knowledge retention, and whether joint trainings have increased safety.

Research clearly supports the creation of a joint team.

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Introduction

Although the name on the apparatus door reads Hanover Park Fire Department, only a small percentage of department responses are firefighting in nature. Today's firefighters require knowledge not only in fire suppression and fire prevention but also in EMS; hazardous materials response (including weapons of mass destruction); technical rescue (collapse, trench, confined space and high angle); and basic skills as an electrician, plumber, carpenter, mechanic and building engineer. Seventy-one percent of all responses are for the department's ambulance.

The Department routinely responds to incidents requiring the use of heavy equipment provided by public works. Due to the complex nature of this equipment, and limited exposure to the equipment on a regular basis, it is difficult to train firefighters and maintain a level of proficiency with these tools. Therefore, allowing a firefighter who is not proficient in the use of heavy equipment to operate it in an emergency environment could easily be considered negligent on the part of the incident commander. The purpose of this research is to determine if it is more expedient to train public works employees how to operate within the incident command system along side firefighters than to train firefighters how to use heavy equipment. This applied research will evaluate the effects of training fire department and public works personnel for joint emergency response.

Evaluative and descriptive research methods have been employed to answer the following questions:

1. What departments are using a joint response plan between fire and public works?
2. What types of incidents have been encountered where this type of operation was used?

3. What joint training is being provided, and how are skills and knowledge maintained over time?
4. How has joint training increased safety for personnel and victims?

These questions are answered through the following:

1. Survey of all municipal combination/career fire departments in the State of Illinois (183 departments).
2. Interviews conducted with the Director of Public Works for the Village of Hanover Park and the Director of Technical Services for the American Public Works Association.
3. Interviews conducted with fire service leaders regarding their experiences and recommendations regarding the use of public works employees and equipment at emergency incidents.
4. Review of documentation from post incident analyses for responses made over the last three years in Hanover Park that required the assistance of public works.
5. Experiment to determine firefighter skill development and retention on the use of public works' heavy equipment.

Background and Significance

The Hanover Park Fire Department is a municipal organization providing emergency services to the Village of Hanover Park. The Village is located in the western suburbs of the Chicago metro area with the department serving a population base of 40,000 residents. The department is an active participant within MABAS (Mutual Aid Box Alarm System) and responds to more than 2,900 emergency calls annually.

Each year the fire department requests assistance from the public works department for mitigation of emergency incidents. A review of the 2006 Fire Department Annual Report (Zaccard, 2006) lists the most common requests as:

- Sand for diking and diverting at hazardous materials incidents
- Demolition equipment used to take down unsafe structures due to fire damage
- Supervisory expertise regarding storm sewers, storm water retention, and sanitary sewer systems
- Barricades for incident perimeter access control or traffic management
- Water/hydrant maintenance and system delivery maximization

Hanover Park enjoys a strong working relationship between the Village's fire department and public works department leadership (director, supervisors, fire chief and officers). It is through these relationships that incidents typically are handled expediently and professionally. Normally calls are handled without a problem, but they unquestionably could operate more efficiently if common emergencies were pre-planned involving representatives from both agencies. Currently, incident commanders make a determination about what equipment and supplies would be needed from public works. They have the emergency communications center contact the on-call public works supervisor, who contacts the incident commander by phone to discuss the response. Based on these discussions, public works equipment and personnel are dispatched. Frequently, public works personnel arrive, assess the situation and determine that additional or different equipment is needed. They then either return to retrieve it, or call back additional personnel to respond with the resource.

An additional problem discovered is that public works employees do not fully understand how to work within the incident command system and are unfamiliar with specialized personal

protective equipment and methods for operating in a hazardous environment. This lack of understanding endangers the lives of personnel and victims at emergency incidents and slows the “situation resolved” time. Training and familiarization of firefighters and public works personnel with the capabilities of each would serve to correct this problem in many instances.

It is also important to note that a Hanover Park public works employee was killed in a confined space accident and a construction worker killed in a trench collapse while building a Village owned building. These events have heightened the awareness level of all involved, and made the Village Board supportive of technical rescue services.

Of concern is that Hanover Park is active in both MABAS Division II and XII, and any change in response procedures has the potential to impact 27 surrounding communities. The Villages of Bartlett and Streamwood have the potential for the greatest impact due to a policy change. The Boundaries of these two communities cover the greatest area of the Village of Hanover Park and provide the lion’s share of auto aid to the village. Likewise, Hanover Park routinely responds into their communities. Due to these close working relationships, a subcommittee of MABAS has been formed between the three departments and is commonly referred to as the “Tri-Village Response Plan”. This plan shares resources, staff and policies far beyond the scope of MABAS. Therefore any change in the make-up of a Hanover Park team would greatly impact Bartlett and Streamwood.

Information obtained through research for this project will assist the Village of Hanover Park in deciding whether to create a joint emergency response team between fire and public works to handle specialized incidents that will utilize assets from both agencies. The research relates to the USFA objective of promoting within communities a comprehensive, multihazard risk-reduction plan by incorporating the capabilities of two village agencies into a joint response

plan designed to enhance the quality of service provided. It also links to the Executive Analysis of Fire Service Operations in Emergency Management class by improving the knowledge, skills and attitudes of fire service and public works leaders as it relates to the manage of large-scale multiagency emergency incidents such as building collapses, trench and confined space rescues, and incidents caused by natural disasters.

Literature Review

The literature review component of this project uncovered several documents speaking to the importance of having heavy equipment available for use in technical rescue incidents. However, little information exists regarding the development and implementation of joint emergency response teams. As part of this review, Ms. Ann Daniels, Director of Technical Services for the American Public Works Association agreed to conduct an e-mail survey of their membership regarding the usage of joint fire and public works emergency response teams. This survey yielded only one response which came from the Public Works Director of Garden City, Wisconsin. Director Barnes advised that his department in 2006 conducted a joint trench rescue training with the fire department. They then sent six fire department and six public works employees to a technical rescue training program with hopes of creating a team. The plan was to continue the training and then offer the service to adjoining communities as part of the fire department's mutual aid system. This training however was halted due to labor concerns over public works employees doing traditional fire department functions. Director Barnes stated that "we have slowed down our movement for now" (Jack D. Barnes, personal communication, May 10, 2007).

Ms. Daniels did state that the APWA is active in preparing for emergency response and has a subcommittee that looks at emergency management issues. This committee works to develop NFPA Standards credentialing, coordinates efforts with the Homeland Security Presidential Directive-8 on National Preparedness and has representatives assigned to the National Emergency Management Association Homeland Security Consortium and the International Association of Fire Chiefs Mutual Aid Committee. Work from this committee is documented on the APWA Emergency Management web page at www.apwa.net/About/TechSvcs/EmergencyManagement/ (Ann Daniels, 2007).

The role of heavy equipment in emergency special operations as well as utilization of personnel with specialized knowledge of structures and materials is well-documented. Retired Assistant Chief Paramedic Clark Staten of the Chicago Fire Department, writing in regard to victim removal from collapsed structures, indicates most experts recommend a process of vertical debris removal rather than horizontal. This process involves lifting the debris off of the victim and then shoring the area to prevent further collapse. To accomplish this process, Chief Staten states that rapid response of equipment capable of overhead lifting is essential. He recommends creating prearranged contracts with construction/demolition companies as well as training with these agencies on a periodic basis (Clark Staten, 1992).

Steven Gentes, writing for the European Geosciences Union, also agrees that heavy equipment is a must for collapse rescue. He recommends a process of Uncovering – Crushing – Grabbing – Lifting away of debris. He believes that this process maximizes the safety of people buried alive. He also recommends the use of suction equipment similar to vacuum trucks for removal of dirt and debris from around victims of trench collapses (Steven Gentes, 2005).

Chief John Norman of FDNY served as the search and rescue site manager at the World Trade Center collapse. He writes in an article for Fire Engineering® that cranes and grapplers were required throughout the incident to remove the structural steel columns. Engineers from New York City's Department of Design and Construction, the Port Authority, and construction company personnel all collaborated to ensure that the debris pile was searched as safely and completely as possible. Numerous pieces of heavy equipment were required along with a 1,000 ton crane. Debris was trucked away and areas were backfilled to support the equipment as it was repositioned to continue working (John Norman, 2002).

After the events of September 11, 2001, it has become widely recognized that construction/demolition contractors play a critical role in collapse search and rescue. The important initial step, however, is recognizing what is needed and having personnel knowledgeable of the capabilities of heavy equipment and how to request and operate around these resources. In an OSHA Fact Sheet on Search and Rescue Operations they stress the importance of having personnel available who understand the "swing radius of cranes and equipment with arms" as well as spotters and skilled equipment support workers (OSHA, 2005).

Organizations have recognized and embraced the issues raised by OSHA. The FEMA US&R position description for Rescue Specialist lists as a required skill a knowledge of heavy equipment, capabilities and rigging operations (FEMA US & R, 2005). The Metropolitan Nashville, Office of Emergency Management, Urban Search and Rescue Team includes members of the Public Works Department as emergency responders. These team members are responsible for equipment and resources provided by the department as well coordination with contractors who are specially called to manage particular incidents (Urban Search and, 2007).

Likewise, the APWA encourages the addition of structural engineers, heavy equipment and rigging specialists, public works logistic specialists, truck drivers, maintenance workers and mechanics all be added to the national US&R teams (David Himes, 2007).

The National Association of Demolition Contractors urges community rescue workers to place experienced demolition contractors on their list of first responders. “We believe demolition contractors can supplement the important work of police, firefighters, and EMTs with the on-site equipment and expertise to help save lives, assist in recovery efforts and make disaster sites safer for the community,” says Michael Taylor, Executive Director (Peter Kenter, 2006).

The literature review confirmed that many agencies require heavy equipment response during complicated rescues. Specialized skills are required to operate this equipment, and support personnel assigned to work with or along side heavy equipment require specialized training. It was also realized that the idea of utilizing public works employees as part of a community’s emergency response plan is not completely foreign and is supported or has been tried by communities throughout the nation. Importantly this concept is supported by the American Public Works Association and the National Association of Demolition Contractors. The findings clearly justify the continuation of the study.

Procedures

The research procedures were driven through numerous conversations with Howard Killian, Director of Public Works for the Village of Hanover Park. Director Killian holds a Masters Degree in Public Administration and is an Illinois Licensed Professional Engineer. He suggested that research begin with an interview of Ann Daniels, Director of

Technical Services, American Public Works Association. He also suggested the development of an experiment to evaluate skill retention on the use of heavy equipment by firefighters.

Ms. Daniels was contacted and asked if she is aware of jurisdictions that have teams in place, are investigating the creation of teams, or at a minimum working to enhance operational relationships between departments within given communities (Ann Daniels, personal communication, May 10, 2007). It was during this conversation that Ms. Daniels agreed to conduct a survey of APWA members regarding response teams.

Research also relied upon past departmental experience in working with the public works department, capabilities of both agencies, the financial impact and the opinions of neighboring fire departments. A survey was conducted of Illinois fire departments to evaluate who, if any, have joint fire and public works response team.

Fire Chief Kevin Heine of the Bartlett Fire Protection District and Deputy Chief Mark Hudson of the Streamwood Fire Department were contacted regarding their thoughts on the possibility of adding specially trained public works employees to Hanover Park's haz mat and technical rescue teams. Bob Hianik, training committee chairman, MABAS division XII was also contacted.

In response to the comments made by Director Jack Barnes of Garden City, Wisconsin during the APWA survey, a conversation was held with the President of Hanover Park Professional Firefighters, IAFF Local 3452.

A survey was developed and mailed to 183 fire departments in the State of Illinois. Departments were selected based on the following criteria:

- Municipal Department (Fire Protection Districts were excluded due to their lack of public works departments. Communities served by Fire Protection Districts may

have public works departments, but the two organizations will operate under two separate taxing bodies.)

- Combination/Career Fire Department (All municipal volunteer departments were excluded due to the general limited size of their public works departments.)
- Illinois Fire Department (Surveys were restricted to Illinois departments in an effort to ensure comparability between definitions i.e. municipal department, combination and career.)

Survey questions focused on frequency and types of incidents for which departments utilized the services of public works. It also asked if a formal joint response plan or team exists. If yes, what motivated the implementation decision? What training standards were utilized? Has the process been successful?

Finally, an experiment was developed and conducted to assess firefighter skill development and retention on the use of public works equipment. Four firefighters were randomly selected from the hazardous materials response team to undergo a 4-hour course on the following public works equipment:

- 10 wheel dump
- Vactor
- Backhoe
- Skid steer

Equipment was selected based on that most commonly used at fire department incidents. Public works supervisors conducted the training and testing. Students were rated using a scale of 1-10 for each station.

- 10-Wheel Dump: Students were instructed on the load carrying capabilities of these apparatus and how to ensure load stability. Since diking is a commonly required skill at a hazardous materials incident, students were instructed on techniques of creating a twelve inch (no more than 18 inch) 360 degree dike around a simulated leaking rail tank car by pouring and spreading sand through the rear swing gate.
- Vactor: Students were instructed on the suction capabilities of a Vactor and how these units can be used to remove dirt and debris from around victims of a trench collapse. Students were cautioned on the vibration generated by these units and the possibility of a secondary collapse. To prevent this, trench shoring is mandatory and must be adjusted as dirt and debris are removed. Students were also cautioned on the high pressure water stream that is partnered with the vacuum component of the unit. As part of the practical component, a “Rescue Randy” was buried waist deep in a trench with students asked to remove the dirt and debris using the Vactor. Students were instructed to use extreme caution to not cause injury from either the water stream or the suction component of the apparatus.
- Backhoe: Students were instructed on the lifting and digging capabilities of a backhoe, as well as the techniques of outrigger stabilization and the hoe swing zone. Students were allowed to operate the equipment by digging trenches and then using the bucket to re-fill the hole. To teach the students proficiency in the use of the hoe, instructors periodically painted lines on the ground inside the trench and required the students to insert the bucket spikes and begin their scoop on these marks.
- Skid Steer: Students were instructed on the operation and safety considerations of using a skid steer. They were advised of roll potential and load stabilization as well

as crush hazards associated with boom movement. Students used the apparatus to spread sand and construct dikes.

After the initial training and skill assessment, firefighters were brought back together and given the same practical exam 6-months later and their skill levels again rated.

Results

The results section of this project detail the findings outlined by the research procedures. This process began with a review of select post incident analysis documents which revealed that the fire and public works departments are able to function well together, but areas exist that could be enhanced to eliminate confusion and increase effectiveness. One area identified is the lack of understanding by public works employees of the incident command system and who is responsible for directing their operation. This has caused confusion with equipment operators as multiple firefighters have tried to give their opinion as to what work should be completed and how. This problem can be corrected if equipment operators take orders only from public works supervisors who receive their direction from command (Hanover Park Fire, 2006).

Another concern realized is the lack of knowledge regarding heavy equipment by fire department personnel as well the consequences associated with usage of this equipment. This became evident at a haz mat incident involving a semi-tractor trailer carrying hot tar on the Elgin O'Hare Expressway. Fire Department haz mat personnel requested a backhoe from public works in order to dig a pit to collect the hot tar as it spilled from the leaking tanker. Public works supervisors responded along with their equipment and determined, due to buried underground power lines, digging a collection pit was unacceptable. They suggested building sand dikes which would collect the product. This change in tactics delayed mitigation efforts and expanded

the impact on the environment. In retrospect, if public works supervisors had been called, advised of the situation, and given the opportunity to determine a plan based on the facts provided, they most likely could have responded with the necessary equipment and supplies initially. Policy recommendations for future incidents were made that state that the incident commander should contact the on-call supervisor by phone prior to requesting specific public works equipment (Hanover Park Fire, November 2005).

A hugely successful incident occurred during a fire at the ComEd substation No. 76. Public works personnel responded with their barricade trailer and provided traffic control around the incident. The public works Director responded as part of the call out, reporting to the command post and coordinating all efforts in a joint command role. It was extremely helpful having his expertise available since over 200,000 people were affected due to this power outage (Hanover Park Fire, 2006).

Interviews with neighboring fire departments and MABAS leadership yielded favorable comments. Bartlett Fire Chief Kevin Heine and Deputy Chief Mark Hudson of the Streamwood Fire Department both felt that the creation of a joint team has merit and should be investigated. D/C Hudson suggested that a meeting be held with the public works departments of all three respective communities to see if interest exists for further partnerships. (Mark Hudson, Kevin Heine, personal communication, April 12, 2007)

Robert Hianik, training committee chairman, MABAS Division XII agreed that adding public works employees would bring a strong component to a team. He went as far as to suggest that they be added to the MABAS division technical rescue and haz mat teams. Public works resources were also discussed in relation to the “spiller pays ordinances”. Lieutenant Hianik felt that many communities would need to add a clause in their policies which would allow billing

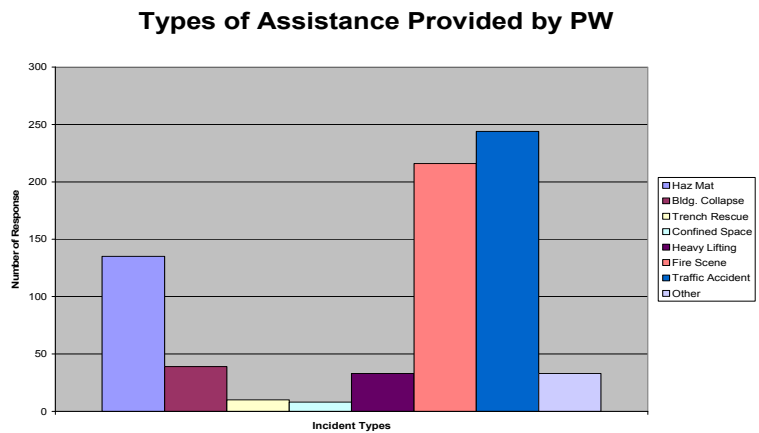
for staff and equipment provided by public works departments. (Robert Hianik, personal communication, May 3, 2007)

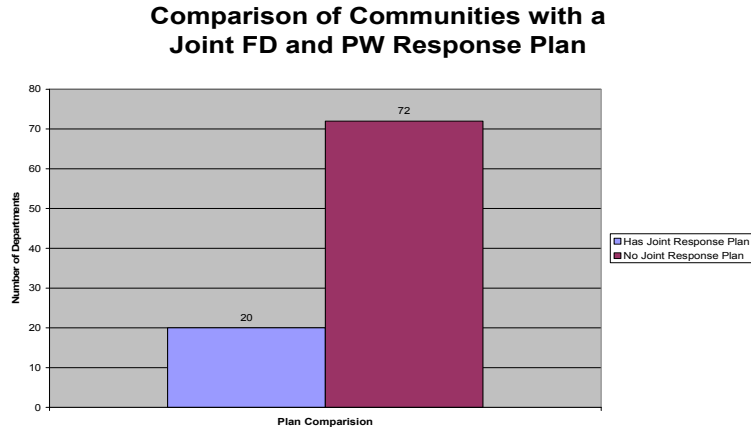
President Eric Fors of IAFF Local 3452 was interviewed regarding the unions position on a joint response team. President Fors indicated that as long as clear definitions of the job of fire personnel compared to public works personnel were delineated, he did not see a problem. He also stated that it is understandable that some overlap of skills will occur, but as long as public works personnel are not used to staff fire equipment or firefighters used to fix water main breaks, a problem should not exist. He was supportive of the enhanced ability to upgrade our serve to the residents (Eric Fors, personal communication, September 1, 2007).

A survey of 183 Illinois fire departments was conducted. A seven question survey was mailed and departments asked to return it via fax. Overall, 92 surveys were returned which yielded a 50.3% return rate. The survey is provided in Appendix 1 with a listing of all departments surveyed in Appendix 2.

Departments were asked to provide the number of incidents over the last five years that required some type of public works assistance for mitigation. Most respondents provided specific numbers for each category, yet a few simply noted that public works had been used at this type of incident. In these cases only one response was tallied for that category.

Figure 1 & 2:





An overall synopsis of the survey finds that 27.7% of the responding departments have some type of joint response plan between their fire and public works departments. Most of these plans are informal or are outlined as part of the community’s emergency operations plan. Only two respondents stated that they have joint standard operating procedures. In both cases, these departments operate a joint emergency response team between fire and public works. Two additional departments require all full time public works employees to also be paid-on-call firefighters. One community holds a bi-annual drill with fire and public works employees. No department other than those with developed and sanctioned teams have any type of set continuing education. Most commonly, joint training is conducted when a supervisor from either agency believes that the other department may benefit from the program. All respondents felt that the joint training had increased safety.

Several factors were listed as to why departments began training together, with the most common being the newly required NIMS training. Others were:

- Fatality of a public works department employee
- Homeland security issues as it relates to protecting the state’s capital
- Storm damage preparedness
- Development of a joint technical rescue team

- Lack of good communication at previous incidents

Training regularly completed includes:

- First Aid/CPR/AED
- Confined Space
- Trench
- Traffic Control
- Unified Command and other NIMS courses
- Helicopter landing zone management

Two departments did comment that fire department union issues had caused training to be curtailed or stopped. Comments from the fire department chiefs were that the union officials felt that by training public works employees to assist at emergency incidents that they were in essence having their work done by a competing union or workforce. The locals took the position that if personnel with specific skills are required at select incidents, the communities need to hire additional firefighters with these skills or train existing firefighters to do in these skills.

As an experiment, four firefighters were trained on the use of select public works equipment and given a skills assessment exam following the training. The skill assessment exam was repeated six months later in an attempt to measure skill degradation. Firefighters were given a candidate number to track them through the process and is noted in the below charts. Scores were as follows:

Table 1: Test No. 1

	Candidate 1	Candidate 2	Candidate 3	Candidate 4
Dump	7	5.5	6	8.5
Vactor	9	9	8.5	8
Backhoe	7	6.5	7	8.5
Skid Steer	8	7	8	8.5
AVERAGE SCORE	7.8	7	7.4	8.4

Table 2: Test No. 2

	Candidate 1	Candidate 2	Candidate 3	Candidate 4
Dump	5	3	5.5	6
Vactor	7.5	7	8	7
Backhoe	4	3	5	5.5
Skid Steer	6	5	7	7
AVERAGE SCORE	5.6	4.5	6.4	6.4

Finally, the fiscal consequences were reviewed and it was discovered that all necessary equipment is already owned by the Village. The financial impact would be confined to overtime required for training and responses as well as protective equipment for public works employees. Overall, the development of a team appears to be a win for both fire and the public works departments. More importantly is the enhanced capabilities of emergency responders who will be responding to the needs of our residents and visitors.

Discussion

The hypothesis that the development of a joint fire and public works emergency response team would enhance emergency response operations seems to be supported by the research. First, since the two departments have functioned successfully together at previous incidents it would suggest that expanded opportunities exist. In addition, conversations with the Public Works Director clearly confirm his support for a combined team. (Howard Killian, personal communication, February 2, 2007)

It is also clear that, in the creation of a team, Hanover Park would not be breaking new ground. Garden City, Wisconsin, has attempted such a team as well as two of the Illinois departments' surveyed (Jack D. Barnes, personal communication, May 10, 2007).

The need for enhanced services could not be more clearly painted than through the events of September 11, 2001. Chief John Norman clearly states that hand digging and rescue tools carried by fire departments were simply not successful against the structural steel of the World Trade Center. Engineers from the City of New York and the Port Authority played a critical role in the process as well as heavy lifting and digging equipment. (John Norman, 2002)

It is also important to note that the Metropolitan Nashville US&R team has identified the need for public works professionals and have included them as part of their team. (Urban Search and, 2007) More telling is the fact that OSHA in their Search and Rescue Fact Sheet recommends having trained personnel who are familiar with the use and operation of heavy equipment to serve as spotters and support workers. It is also encouraging that the APWA supports the deployment of public works personnel in these roles as well as has a committee working on NFPA credentialing. (David Himes, 2007)

The experiment conducted on firefighter skill retention in the use of public works heavy equipment realized an overall 1.9% reduction in assessment scores on average. The individual difference in scores are shown below:

Table 3

	Candidate 1	Candidate 2	Candidate 3	Candidate 4
Test No. 1 Average Score	7.8	7	7.4	8.4
Test No. 2 Average Score	5.6	4.5	6.4	6.4
Difference	2.2	2.5	1	2

It is important to note that students were not given time to practice with the equipment prior to the second test and were expected to perform as if they had commandeered the equipment from public works employees and now were utilizing it to make a rescue or mitigate a

hazardous situation. Based on these numbers it is clear that skill degradation is a problem. Therefore, it can be argued that it is better to allow those who routinely operate these types of equipment to do so during an emergency situation.

This applied research project set out to determine the feasibility of a joint fire department and public works emergency response team. Based on the information gained during research for this project, the case for a joint team is clearly made. The literature review identifies that numerous agencies, either through past experiences or forward thinking are considering the importance of including public works experts as first responders. Additionally, the finding of the evaluative research clearly shows that skill deterioration occurs and can become dangerous when using heavy equipment for emergency operations.

These findings will clearly have an impact on Hanover Park Fire Department. The research will be used to support the development of a team during the upcoming Village strategic planning process in November. It is anticipated that this will be met with praise by the Village Board and will be supported completely.

Recommendations

A clear recommendation for the development of a joint response team is supported by the research. In order to implement any such team within the Village of Hanover Park several steps need to be accomplished.

1. The Fire Chief and Public Works Director needs to gain approval of the Village Manager to present a plan for a joint response team to the Village Board.

2. The Fire Chief and Public Works director need to develop a joint presentation to be offered to the Village Board at their November strategic planning retreat. Items to be included:

- a. Clear delineation of the problem statement used to develop this applied research project.

The Hanover Park Fire Department routinely responds to incidents requiring the use of heavy equipment provided by public works. Fire personnel do not know the capabilities of heavy equipment and what equipment to request.

Public Works employees who operate the equipment do not know how to work within the incident command system, are unfamiliar with specialized personal protective equipment and methods for operating in hazardous environment.

The problem is that lives of personnel and victims at emergency incidents are endangered and the "situation resolved" time is slowed.

- b. Present real life examples for past Hanover Park events that support the claims made in the problem statement.
 - c. Develop a fiscal statement detailing the anticipated cost of this new program along with possible revenue sources.
 - d. Provide a projected implementation date.
3. In conjunction with the Human Resource Department, the Public Works Director and his bargaining team will need to hold a labor management meeting with the Teamsters (the collective bargaining unit representing public works employees) to clearly define the job of public works employee/equipment operator. Included with this will be discussions on how team members will be selected overtime distributed, and pager pay.

4. In conjunction with the Human Resource Department, the Fire Chief and his bargaining team will need to hold a labor management meeting with the IAFF and SEIU (the collective bargaining units representing the fire department) to clearly define the job of firefighters.
5. An optional meeting which may prove helpful will be a joint labor management meeting that includes all three bargaining units, the human resource department and public works and fire bargaining teams.
6. A budget submittal will be prepared (if the program is approved by the Village Board) and submitted for adoption in the Fiscal Year 2008-2009 budget.
7. Beginning first quarter of 2008 progressing through the fourth, conduct joint training programs that will include:
 - a. Develop a course and train public works team members in incident command and unified command.
 - b. Conduct training on Technical Rescue Awareness and Haz Mat Awareness for all Public Works Team Members.
 - c. Develop a course and train fire personnel on the equipment available through public works, the specific capabilities and how these capabilities relate to technical rescue and hazardous materials operations. Included will be safety training while working with heavy equipment, rigging, lifting, and equipment stabilization.
 - d. Hold a drill involving fire and public works members.
8. Plan that in Fiscal Year 2009-2010 to conduct the following training:

- a. Conduct Hazardous Materials Operations level training for all public works team members.
- b. Conduct Technical Rescue Operations level training for all public works team members.
- c. Conduct a drill involving fire and public works members.

In conclusion, the research clearly justifies the creation of a team in order to more efficiently manage technical rescue and hazardous materials incidents. Stumbling blocks may be encountered but can generally be managed through open and honest communication focused on the mission of providing the highest quality service to our residents and visitors.

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Office of Emergency Management - Urban Search and Rescue Web site: <http://>

www.nashville.gov/oem/eoc/eoc_usar.htm

Appendix 1

Village of Hanover Park
Fire Department
6850 Barrington Road

Municipal Building
2121 West Lake Street
Hanover Park, Illinois
60133-4398

630-372-4200
Fax 630-372-4215

Rodney S. Craig
Village President

Sherry L. Craig
Village Clerk

Marc G. Hummel
Village Manager

May 11, 2007



«NAME»
«DEPARTMENT»
«ADDRESS»
«CITY», «STATE» «ZIP»

Dear «NAME»,

I am conducting research to evaluate the effects of training fire department and public works personnel for joint emergency response operations. This research will be documented in an Applied Research Paper as part of my Executive Fire Officer Program at the National Fire Academy.

The Hanover Park Fire Department routinely responds to incidents requiring the use of heavy equipment provided by public works. Unfortunately, fire personnel do not know the capabilities of heavy equipment and what equipment to request. On the other hand, Public Works employees, who operate the equipment, do not know how to work within the incident command system, are unfamiliar with specialized personal protective equipment and methods for operating in a hazardous environment. **This disconnect endangers the lives of personnel and victims at emergency incidents and the "situation resolved" time is slowed.**

Hanover Park is considering the development of a joint Fire Department/Public Works Emergency Response Team that would be trained to respond together, having expertise in the disciplines of hazardous materials, and technical rescue including the use of heavy equipment.

The attached survey questions will help evaluate the need for and the possible success of such a team. Please complete the attached survey and fax it to 630.736.6810 by June 4, 2007.

Thank you for your time and assistance.

Sincerely,

Craig A. Haigh, CFO, NREMT-P
Fire Chief

«DEPARTMENT»
Department Name

SURVEY QUESTIONNAIRE

1. What types of incidents have been encountered within your department where Public Works equipment was required for mitigation above their normal services?

Number of times over the last 5 years:

_____ Haz Mat	_____ Fire Scene
_____ Building Collapse	_____ Traffic Accident
_____ Trench Collapse	
_____ Confined Space	
_____ Heavy Lifting (including lifting for vehicle rescue)	

2. Does your department have a joint response plan between fire and public works?

- Yes
 No

**IF NO PLAN EXISTS,
PLEASE RETURN THE SURVEY WITHOUT PROCEEDING
FURTHER.**

3. What drove the decision to implement a plan?

4. Is regular joint training conducted between fire and public works?

Yes

No

If yes, what type of training is conducted? Any type of departmental cross training?

5. What type of continuing education is provided to maintain skills and maintenance over time?

6. Has joint training increased the safety for personnel and victims?

Yes

No

7. Has the joint training produced a positive impact on emergency operations?

Yes

No

If yes, please explain how:

Appendix 2

DEPARTMENT	ADDRESS	CITY	STATE	ZIP
Alsip Fire Department	12600 S. Pulaski	Alsip	IL	60803
Alton Fire Department	333 E. 20th Street	Alton	IL	62002
Anna Fire Department	101 Market Street	Anna	IL	62906
Arlington Heights Fire Department	1150 N. Arlington Heights Road	Arlington Heights	IL	60004
Aurora Fire Department	75 N. Broadway Avenue	Aurora	IL	60505
Barrington Fire Department	400 N. Northwest Highway	Barrington	IL	60010
Batavia Fire Department	800 E. Wilson Street	Batavia	IL	60510
Beardstown Fire and Ambulance	1119 Edwards Street	Beardstown	IL	62618
Bedford Park Fire Department	6820 S. Archer Road	Bedford Park	IL	60501
Belleville Fire Department	213 S. Illinois Street	Bellville	IL	62220
Bellwood Fire Department	3200 Washington Blvd	Bellwood	IL	60104
Belvidere Fire Department	123 S. State Street	Belvidere	IL	61008
Bensenville Fire Department	500 S. York Road	Bensenville	IL	60106
Berwyn Fire Department	6700 W 26 Street	Berwyn	IL	60402
Bloomington Fire Department	310 N. Lee Street	Bloomington	IL	61701
Blue Island Fire Department	2450 W. Vermont Street	Blue Island	IL	60406
Bolingbrook Fire Department	375 W. Briarcliff Road	Bolingbrook	IL	60440
Bradley Fire Department	147 S. Michigan Street	Bradley	IL	60915
Bridgeview Fire Department	7500 S. Oketo Avenue	Bridgeview	IL	60455
Broadview Fire Department	2400 S. 25th Avenue	Broadview	IL	60155
Brookfield Fire Department	9001 Shields Avenue	Brookfield	IL	60513
Buffalo Grove Fire Department	1051 Highland Grove Drive	Buffalo Grove	IL	60089
Burbank Fire Department	6530 W 79th Street	Burbank	IL	60459
Cairo Fire Department	1513 Washington Avenue	Cairo	IL	62914
Calumet City Fire Department	684 Wentworth Avenue	Calument City	IL	60409
Carbondale Fire Department	200 S. Illinois Avenue	Carbondale	IL	62902
Carpentersville Fire Department	213 Spring Street	Carpentersville	IL	60110
Champaign Fire Department	307 S. Randolph Street	Champaign	IL	61820
Charleston Fire & Rescue	404 10 Street	Charleston	IL	61920
Chicago Fire Department	10 W 35th Street, 14th Floor	Chicaog	IL	60616
Chicago Heights Fire Department	83 E Joe Orr Road	Chicago Heights	IL	60411
Chicago Ridge Fire Department	10258 Southwest Highway	Chicago Ridge	IL	60415
Cicero Fire Department	5303 W 25th Street	Cicero	IL	60804
Clarendon Hills Fire Department	316 Park Avenue	Clarendon Hills	IL	60514
Collinsville Fire Department	130 S. Clinton	Collinsville	IL	62234
Country Club Hills Fire Department	4350 183rd Street	Country Club Hills	IL	60478
Crestwood Fire Department	13840 s. Cicero Avenue	Crestwood	IL	60445
Crystal Lake Fire-Rescue Department	100 W. Municipal Complex	Crystal Lake	IL	60014
Danville Fire Department	1111 N. Griffin Street	Danville	IL	61832
Decatur Fire Department	1415 N Water Streetq	Decatur	IL	62526
Dekalb Fire Department	700 Pine Street	DeKalb	IL	60115
Des Plaines Fire Department	405 S. River Road	Des Plaines	IL	60016
Dixmoor Fire Department	166 W. 145th Street	Dixmoor	IL	60426
Dixon Fire Department	113 W 2nd Street	Dixon	IL	61021

Dolton Fire Department	14022 Park Avenue	Dolton	IL	60419
Downers Grove Fire Department	6701 Main Street	Downers Grove	IL	60516
East Alton Fire Department	209 N. Shamrock Street	East Alton	IL	62024
East Moline Fire Department	1523 Morton Drive	East Moline	IL	60144
East Peoria Fire Department	201 W. Washington Street	East Peoria	IL	61611
East Saint Louis Fire Department	301 Riverpark Drive	East St. Louis	IL	62201
Edwardsville Fire Department	410 N Main Street	Edwardsville	IL	62025
Effingham Fire Department	505 W. Fayette Avenue	Effingham	IL	62401
Eldorado Fire Department	1015 1st Street	Eldorado	IL	62930
Elgin Fire Department	550 Summit Street	Elgin	IL	60120
Elk Grove Village Fire Department	901 Brantwood Avenue	Elk Grove Village	IL	60007
Elmhurst Fire Department	209 N York Street	Elmhurst	IL	60126
Elmwood Park Fire Department	7 Conti Parkway	Elmwood Park	IL	60707
Evanston Fire & Life Safety Services	909 Lake Street	Evanston	IL	60201
Evergreen Park Fire Department	9000 S. Kedzie Avenue	Evergreen Park	IL	60805
Fairfield City Fire Department	108 NW 7th	Fairfield	IL	62837
Fairmont City Fire Department	2601 N 41st Street	Fairmont City	IL	62201
Flossmoor Fire Department	2800 Flossmoor Road	Flossmoor	IL	60422
Ford Heights Fire & Ambulance Department	1343 Ellis Avenue	Ford Heights	IL	60411
Forest View Fire Department	7010 46th Street	Forest View	IL	60402
Fox Lake Fire Department	66 Thillen Drive	Fox Lake	IL	60020
Franklin Park Fire Department	10001 Addison Street	Franklin Park	IL	60131
Freeport Fire Department	230 West Stephenson Street	Freeport	IL	61032
Galena Fire Department	101 S Bench Street	Galena	IL	61036
Galesburg Fire Department	150 S. Broad Street	Galesburg	IL	61401
Geneva Fire Department	200 Eastside Drive	Geneva	IL	60134
Glen Ellyn Fire Company	524 Pennsylvania Avenue	Glen Ellyn	IL	60138
Glencoe Public Safety Department	325 Hazel Avenue	Glencoe	IL	60022
Glenview Fire Department	1815 Glenview Road	Glenview	IL	60025
Glenwood Fire Department	One Asselborn Way	Glenwood	IL	60425
Granite City Fire Department	2300 Madison Avenue	Granite City	IL	62040
Gurnee Fire Department	4580 Old Grand Avenue	Gurnee	IL	60031
Harvey Fire Department	15600 S. Center Avenue	Harvey	IL	60426
Havana Fire & Rescue	226 W Market Street	Havana	IL	62644
Hazel Crest Dept. of Fire Rescue & Inspection Svcs	2903 W 175 Street	Hazel Crest	IL	60429
Herrin Fire Department	401 S. Park Avenue	Herrin	IL	62948
Highland Fire Department	1122 Broadway	Highland	IL	62249
Highland Park Fire Department	1130 Central Avenue	Highland Park	IL	60035
Highwood Fire Department	428 Green Bay Road	Highwood	IL	60040
Hillsboro Fire Department	101 S. Broad Street	Hillsboro	IL	62049
Hillside Fire Department	523 N Wolf Road	Hillside	IL	60162
Hinsdale Fire Department	121 Symonds Drive	Hinsdale	IL	60521
Hoffman Estates Fire Department	1900 Hassell Road	Hoffman Estates	IL	60195
Homewood Fire Department	17950 Dixie Highway	Homewood	IL	60430
Jacksonville Fire Department	200 West Douglas Avenue	Jacksonville	IL	62650
Jerseyville Fire Department	115 E Prairie Street	Jerseyville	IL	62052

Johnson City Fire Department	500 Washington Avenue	Johnson City	IL	62951
Joliet Fire Department	101 E Clinton Street	Joliet	IL	60432
Kankakee Fire Department	385 East Oak Street	Kankakee	IL	60901
Kewanee Fire Department	401 E 3rd. Street	Kewanee	IL	61443
Lake Forest Fire Department	255 W Deerpath Road	Lake Forest	IL	60045
Lake Zurich Fire-Rescue	321 S. Buesching Road	Lake Zurich	IL	60047
Libertyville Fire Department	1551 N Milwaukee Avenue	Libertyville	IL	60048
Lincoln Fire Department	700 Broadway	Lincoln	IL	62656
Lincolnwood Fire Department	6900 N Lincoln Avenue	Lincolnwood	IL	60712
Litchfield Fire Department	201 E Edwards Street	Litchfield	IL	62056
Lombard Fire Department	255 E. Wilson Street	Lombard	IL	60148
Lyons Fire Department	4043 Joliet Avenue	Lyons	IL	60534
Macomb Fire Department	219 W Jackson Street	Macomb	IL	61455
Maryville Village Fire Department	300 N Dunk Street	Maryville	IL	62062
Matteson Fire Department	3445 211 Street	Matteson	IL	60443
Mattoon Fire Department	1812 Prairie Avenue	Mattoon	IL	61938
Maywood Fire Department	700 Saint Charles Road	Maywood	IL	60153
McCook Fire Department	5000 Glencoe Avenue	McCook	IL	60525
Melrose Park Fire Department	3601 W Lake Street	Melrose Park	IL	60160
Midlothian Fire Department	14801 S Pulaski Road`	Midlothian	IL	60445
Moline Fire Department	1630 8th Avenue	Moline	IL	61265
Monmouth Fire Department	600 S. Main Street	Monmouth	IL	61462
Morton Grove Fire Department	6250 Lincoln Avenue	Morton Grove	IL	60053
Mount Carmel Fire Department	830 Walnut Street	Mount Carmel	IL	62863
Mount Prospect Fire Department	112 E Northwest Highway	Mt. Prospect	IL	60056
Mount Sterling Fire Department	145 W Main Street	Mt. Sterling	IL	62353
Mount Vernon Fire Department	1100 Main Street	Mt. Vernon	IL	62864
Mundelein Fire Department`	1000 N Midlothian Road	Mundelein	IL	60060
Murphysboro Fire Department	219 N 10 Street	Murphysboro	IL	62966
Naperville Fire Department	1380 Aurora Avenue	Naperville	IL	60540
Niles Fire Department	8360 W Dempster Street	Niles	IL	60714
Normal Fire Department	1300 E College Avenue	Normal	IL	61761
North Chicago Fire Department	1850 Lewis Avenue	North Chicago	IL	60064
North Riverside Fire Department	2331 S. Des Plaines Avenue	North Riverside	IL	60546
Northbrook Fire Department	740 Dundee Road	Northbrook	IL	60062
Oak Brook Fire Department	1200 Oak Brook Road	Oak Brook	IL	60523
Oak Forest Fire Department	5620 James Drive	Oak Forest	IL	60452
Oak Lawn Fire Department	6451 W 93 Place	Oak Lawn	IL	60453
Oak Park Fire Department	100 N Euclid Avenue	Oak Park	IL	60301
Olney Fire Department	501 N Walnut Street	Olney	IL	62450
Ottawa Fire Department	301 W Lafayette Street	Ottawa	IL	61350
Palatine Fire Department	39 E Colfax	Palatine	IL	60067
Park Forest Fire Department	156 Indianwood Blvd	Park Forest	IL	60466
Pekin Fire Department	3232 Court Street	Pekin	IL	61554
Peoria Fire Department	505 NE Monroe Street	Peoria	IL	61603
Princeton Fire Department	2 S. Main Street	Princeton	IL	61356
Quincy Fire Department	906 Vermont Street	Quincy	IL	62301
Richton Park Fire Department	4455 Sauk Trl	Richton Park	IL	60471

River Forest Fire Department	400 Park Avenue	River Forest	IL	60305
River Grove Fire Department	2601 Thatcher Avenue	River Grove	IL	60171
Riverdale Fire-Rescue Department	725 W 138th Street	Riverdale	IL	60827
Riverside Dept. of Fire-Rescue & Emer. Svcs.	27 Riverside Raod	Riverside	IL	60546
Robbins Fire Department	3327 W 137 Street	Robbins	IL	60472
Robinson Fire Department	400 S Jackson Street	Robinson	IL	62454
Rochelle Fire & Ambualnce Department	401 5th Avenue	Rochelle	IL	61068
Rock Falls Fire Department	1013 7th Avenue	Rock Falls	IL	61071
Rock Island Fire Department	1313 5 Avenue	Rock Island	IL	61201
Rockford Fire Department	204 S First Street	Rockford	IL	61104
Rolling Meadows Fire Department	2455 Plum Grove Road	Rolling Meadows	IL	60008
Romeoville Fire Department	18 Montrose Drive	Romeoville	IL	60446
Rosemont Fire Department	5800 River Road	Rosemont	IL	60018
Saint Charles Fire Department	112 N 1st Avenue	Saint Charles	IL	60174
Savanna Fire & Rescue Department	101 Main Street	Savanna	IL	61074
Schaumburg Fire Department	1601 N. Roselle Road	Schaumburg	IL	60195
Schiller Park Fire Departmentq	9526 West Irving Park	Schiller Park	IL	60176
Silvis Fire Department	1040 1st Avenue	Silvis	IL	61282
Skokie Fire Department	7424 Niles Center Road	Skokie	IL	60077
South Beloit Fire-Rescue	429 Gardner Street	South Beloit	IL	61080
South Holland Fire Department	16230 Wausau Avenue	South Holland	IL	60473
Sparta Fire Department	107 E. Jackson	Sparta	IL	62286
Springfield Fire Department	825 E Capital	Springfield	IL	62701
Steeleville Fire Department	107 W Broadway	Steeleville	IL	62288
Steger Fire Department	3322 Emerald Avenue	Steger	IL	60475
Sterling Fire Department	110 W 5th Street	Sterling	IL	61801
Stickney Fire Department	6433 W 43rd Street	Stickney	IL	60402
Stone Park Fire Department	1745 N 35th	Stone Park	IL	60165
Streamwood Fire Department	1095 E Schaumburg Road	Streamwood	IL	60107
Streator Fire Department	108 N Wasson	Streator	IL	61364
Sycamore Fire Department	535 Dekalb Avenue	Sycamore	IL	60178
Taylorville Fire Department	112 W Vine Street	Taylorville	IL	62568
Thornton Fire Department	115 E. Margaret Street	Thornton	IL	60476
Tilton Fire Department	1001 Tilton Road	Tilton	IL	61833
University Park Fire Department	698 Burnham Drive	University Park	IL	60466
Urbana Fire Rescue Svcs Department	400 S Vine Street	Urbana	IL	61801
Villa Park Fire Department	1440 S. Ardmore Avenue	Villa Park	IL	60181
Waukegan Fire Department	1101 Belvidere Street	Waukegan	IL	60085
West Dundee Fire Department	100 Carrington Drive	Dundee	IL	60118
Westchester Fire Department	10240 W Roosevelt Road	Westchester	IL	60154
Western Springs Fire Department	4353 Wolf Road	Wester Springs	IL	60558
Wheeling Fire Department	255 W Dundee Road	Wheeling	IL	60090
Willow Springs Fire Department	8259 Willow Springs Road	Willow Springs	IL	60480
Wilmette Fire Department	1304 Lake Avenue	Wilmette	IL	60091
Winnetka Fire Department	428 Green Bay Road	Winnetka	IL	60093
Winthrop Harbor Fire Department	830 Sheridan Road	Winthrop Harbor	IL	60096
Wood River Fire Department	501 E Edwardsville Road	Wood River	IL	62095

Worth Fire Department	7116 W 111th Street	Worth	IL	60482
Zeigler Fire Department	301 Church Street	Ziegler	IL	62999
Zion Fire & Rescue Department	2828 Sheridan Road	Zion	IL	60099