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Reducing Vacant Building Fires in Milwaukee

James H. Ley

Milwaukee, Wisconsin Fire Department

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 and expressions, or writings of another.

Signed: _____

Abstract

Although the City of Milwaukee, Wisconsin had been troubled with fires in vacant or abandoned buildings in significant numbers since the 1960's, the problem was that a spike of fires in these buildings, late in 2008 threatened the health and safety of firefighters, possible occupants and neighbors. The purpose of this applied research paper (ARP) was to evaluate the scope of vacant building fires in Milwaukee and identify methods for reducing those fires. Using descriptive research, the research sought to find the scope of vacant building fires in Milwaukee, the socio-economic effects of these fires on the city and what Milwaukee and other comparable American cities are doing to address this problem. Lastly, what could the City of Milwaukee do to improve current efforts in this area? A literature review, a national questionnaire, observations, interviews and statistical analysis were used to answer the research questions. Research revealed that Milwaukee is not undergoing the amount of vacant building fires prevalent in other parts of the country. Also, efforts undertaken by Milwaukee city government earlier in the decade have worked well to limit these fires. Recommendations to further improve fire department and city government response to these fires included the following. City government needs to improve tracking of vacant buildings. Also some public education on the negatives of these buildings in neighborhoods and what citizens can do to assist the City. Use of the 211 phone number could make it easier for taxpayers to report such structures. On the fire department side, development of a standard operating procedure for vacant buildings should be developed. A placard system to label these buildings for specific hazards should be enacted.

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Reducing Vacant Building Fires in Milwaukee

The City of Milwaukee has experienced fires in vacant buildings since the establishment of the city in 1839. These buildings present a real risk to firefighters, any possible inhabitants and neighbors. On December 24, 1994, Milwaukee firefighter Lionel Hoffer perished in a vacant commercial building fire. On May 22, 2008, two Milwaukee firefighters fell through a floor at a vacant house fire, seriously injuring one of them. The problem in 2008 was that an increase in this type of fire in vacant buildings, particularly dwellings, threatened the safety of firefighters who responded to these calls, possible building occupants and neighboring residents. The purpose of this ARP was to evaluate the scope of vacant building fires in Milwaukee, and make recommendations to reduce or limit these fires based on the findings of research conducted by the author.

Using descriptive research involving a literature review, a national questionnaire, interviews and statistical analysis, the following research questions will be answered:

(a) What is the scope of vacant building fires in Milwaukee? This question will be answered using statistical analysis and an interview. (b) What are the socio-economic effects of these fires on Milwaukee? This question will be answered by using observation and statistical analysis. (c) What are comparable American cities doing to address the problem of abandoned or vacant building fires? This question to be answered using a questionnaire and statistical analysis. (d) What strategies is the City of Milwaukee currently using to address this problem and what can be done to improve them? This question will be answered through an analysis of current strategies compared to other American cities' best practices.

Background and Significance

Vacant buildings have been termed neighborhood killers (City of Louisville, n.d.). These structures are often eyesores and devalue nearby properties. They often attract vandals, vagrants and thieves (Allegrini, 2008). Jones (2001) wrote that uninhabited buildings which are unsecured have a high probability of suffering intentionally set fires.

With the recent economic downturn, the likelihood of an increase in vacant building fires has increased. The biggest surge of mortgage defaults in 70 years has coincided with an increase in vacant building fires in the states with the most repossessed homes. “Home arsons follow foreclosure trends with a lag” (Howley, 2008 ¶ 6).

Between January 1998 and February 2007, the American fire service lost 72 firefighters at fires in unoccupied structures (National Institute for Occupational Safety and Health, 2009). These 72 firefighters accounted for 75% of the line of duty deaths that the National Institute for Occupational Safety and Health investigated during this time period. The National Fire Protection Association (NFPA) estimates that more than 6,000 firefighters are injured while fighting fires in these buildings each year (International Association of Arson Investigators, n.d.).

The City of Milwaukee, Wisconsin is the largest in the state. The current population is 602,782 and resides in an area of 96.1 square miles (City of Milwaukee, 2009). Milwaukee is located on the western shore of Lake Michigan at the joining of three rivers.

Milwaukee’s diverse population consists of, 44.7% white, 40.2% black, 14.5% Latino or Hispanic, and 3.6% Asian (Fire 20/20, 2007). According to the 2000 United States Census, 48% of the population is male and 52% female. There are 228,327 occupied housing units. By age 28.6% of the population is under 18, 12.2% are between the age of 18 and 24, 30.2% are between 25 and 44, 18.1% from 45 to 64 and 10.9% who are 65 or older (United States Census, 2006).

The median income for a household in the city is \$32,216, while the median income for a family is \$37,879 (United States Census, 2006). 22% of the workforce is involved in manufacturing. Historically known as the Brew City, brewing only represents a fraction of the city's economy. Today service and managerial jobs are the fastest growing segment of the economy with health care jobs making up 27% of the city's jobs (Wikipedia, 2008).

On the negative side, Milwaukee has the second highest black male unemployment rate in the U.S. behind Pittsburgh, PA at 43%. Milwaukee has a poverty rate where 26.2% of its citizens live below the federal poverty line (Glauber & Poston, 2007).

The Milwaukee Fire Department (MFD) is an all hazards organization responsible for fire fighting, emergency medical services (EMS), and special operations, (hazardous materials, water rescue, and heavy rescue) as well as public education (Milwaukee FD, 2009). The department responds from 36 fire stations with 36 engine companies, 16 ladder companies, and 12 paramedic units deployed in 5 battalions. In 2008, the department responded to 68,382 calls for service. 53,898 were EMS calls and 14,484 were fire related calls (MFD, Technical Services Section, 2009).

The City of Milwaukee Fire Department began tracking the amount of fires in vacant structures in 1964 (MFD, Annual Reports 1964-2002). The number of these fires continued to rise through the turbulent 1960's, peaking in 1968 with 753 (MFD, Annual Reports 1964-2002). Mayor Henry Maier established a task force to eliminate blighted buildings on May 31, 1967. The task force came up with five suggestions to combat the problem of vacant buildings (City of Milwaukee, September 1, 1967).

Through the 1970's fires in vacant buildings remained at a fairly constant rate, averaging 283 fires a year (Appendix A). By the 1980's the average had dropped to 174 fires per year. In 1989, Mayor John Norquist appointed another task force to examine vacant and boarded up homes. This task force came up with 18 recommendations to respond to this problem (City of Milwaukee, July 24, 1989). The 1990's saw a further decrease to an average of 154 fires for the six years that the department kept statistics on vacant structures. The year 1994 saw the line of duty death of Firefighter Lionel Hoffer at a vacant commercial structure fire (United States Fire Administration, 2009). In 2002, the City of Milwaukee adapted several new ordinances to further tighten restrictions on vacant or empty residences (City of Milwaukee, April 12, 2005). In the past five years, fires in these structures have dropped below 100 for the first time since the MFD began tracking these fires.

Given recent serious fires involving vacant homes (Stout & DeLong, 2008), and the increases in foreclosed homes this ARP was written to evaluate current strategies in place by the City of Milwaukee and its Fire Department and what improvements may be made. This paper is also being written in response to the stated goals of the National Fire Academy's Executive Fire Officer Program. One goal is to address emerging issues in a timely manner (National Fire Academy, February, 2008). The recent economic situation has seen an increase in the number of fires in foreclosed and abandoned buildings in different areas of the country. Will this happen in Milwaukee? A second goal is to reduce the loss of lives and property in these structures. One of the expectations of the Executive Fire Officer class recently attended by the author, Strategy for Community Risk Reduction, (Strategy for Community Risk Reduction, October 2008) was for a fire service leader to be able to identify issues of community risk and develop programs to address these risks. The current economy may lead to an increase in vacant structure fires, and

a problem that city government and the fire department thought was under control may re-emerge. An effective fire service professional will be pro-active in dealing with an emerging issue instead of reactive.

Literature Review

A comprehensive review of material published on the subject of vacant buildings and fire in urban America was undertaken prior to writing this ARP. The National Fire Academy's Learning Resource Center was utilized while the author was on campus in October of 2008. Previous ARP's, books and periodicals on the subject were examined. The Milwaukee Public Library was used to view additional materials. The archives of the Milwaukee Fire Department's Historical Society were used to gather historical background. Finally, the bulk of the information was obtained from the Internet.

The author found four different areas in the literature reviewed that applied to the subject of this ARP. The first was a historical look back at urban American blight and the problem of fire in vacant buildings. The second area was a look at today's current economy and its effect on the number of fires in vacant properties. A third area reviewed was the fire problem in these structures nationwide, and how fire departments respond to them. Lastly, material on how urban American municipal governments respond to the problem of vacant buildings was studied.

Historical Background

In their ground breaking book on community oriented policing *Broken Windows*, Kelling and Wilson (1982) put forth the idea that the cycle of urban decay has occurred in all cities for centuries. Prior to World War II, most American urban dwellers were forced to stay in their chosen neighborhoods because of a lack of mobility. After the war, a newly mobile society made it easier for all but the poorest to move away from troubled urban areas. The main theme

of the book was that if a broken window is left un-repaired, soon other windows will be broken leading to more vandalism, and other crimes such as arson. Untended property becomes fair game for more vandalism, and other crimes such as arson. Untended property becomes fair game for people out for fun or plunder.

In Detroit, Michigan, the story of one apartment building is comparable to what happened to thousands of buildings across the country. In 1925 a four story, 20 unit apartment building was built on Elmhurst Avenue. In the 1950's the building was fully occupied. But as people began to move to the suburbs, property values fell and poorer working people could afford to rent out entire homes cheaply. By the 1970's only 14 units were occupied and by 1984 only six were being rented. "The loss of taxpaying residents to the suburbs left thousands of vacant buildings" (McWhirter, 2008 ¶ 1). An ill-prepared city government became responsible for most of these buildings. A shrinking tax base, reduced federal aid, confused property laws, and uncoordinated government departments all contributed to a major problem. City departments tasked with dealing with these buildings were also being cut. All of these buildings underwent a predictable cycle of decay. At the first sign of abandonment, vandals would come in and break things; next thieves would come in and strip anything that could be sold. Transients came next using the buildings for drug houses often building fires to keep warm, sometimes setting them on fire. "These buildings often became temporary haunts for hoodlums, drug addicts, prostitutes and the mentally ill" (McWhirter, 2008 ¶ 4). The vacant buildings became headaches for cops and firefighters.

Detroit and some of its suburbs became infamous for "Devils Night" (Wikipedia, 2009 ¶ 3). In the mid to late 1980's, Detroit suffered 500 to 800 fires in the three days before Halloween. Many of these were set in the cities many vacant buildings.

Robinson and Cole (October, 2007) identified that the construction boom of the 1920's coupled with advances in transportation led to many people leaving the cities for the suburbs leaving large areas of a city vacant or underutilized. "The cost of providing social and municipal services combined with the loss of tax revenues placed an enormous strain on local governments. (pg. 3)"

New York City saw significant fire duty during the period known as the *war years*. [italics added] This period took place generally between the assassination of Dr. Martin Luther King and the blackout of the city in 1977. Fay (2006) wrote that "between those two dates occurred a period of urban destruction, primarily by fire, of areas of New York which has been described as equal to the destruction of Berlin, Germany during World War II (§ 4)". Many of these fires occurred in vacant buildings that had been previously the target of arsonists. Many fire companies would go to 4 or more fires a night.

Northeastern and Midwestern American cities have long been identified with urban decay, but Schilling (2004) found that fast growing areas in the Southeast and West are not immune to vacant properties. "Local municipal governments face internal coordination challenges between departments in responding to blighted areas (p.13)".

The book *Street of Hope* (1994) chronicled the downfall and the gradual turnaround of the Dudley Street neighborhood of Boston, MA. In a pattern repeated all over the country, a thriving neighborhood was trashed. "Starting in the 1950's disinvestment, abandonment, and arson turned Dudley's homes, yards and businesses into a wasteland (p. 2)". Residents remembered the 1980's as a time of seeing fire trucks almost every night, but little of other city services.

Shai (2006) found that the prevalence of vacant houses, low income, older housing stock and the ability to speak English have significant effects on fire injury rates in Philadelphia, PA.

The main causes of fires in these buildings were intentional fire setting, open flames and exposure to another fire.

The literature examined revealed that the problem of vacant or abandoned buildings have been with urban America for many years. These buildings have been targets for arson causing millions of dollars of damage as well as death and injury to firefighters and civilians.

Current Economics and Vacant Buildings

The current American economic situation may reasonably be expected to cause an increase in the amount of fires in vacant buildings. Howley (2008) writes that the surge in home mortgage defaults followed by foreclosures has led to an increase in home arson fires in the states with the most repossessed homes. Nevada, Massachusetts and Ohio led the U.S. in the number of repossessions. “The United States housing market correction and subprime mortgage crisis has significantly contributed to a recession.” (Wikipedia, 2009)

In 2007, intentionally set fires jumped by 1,500 over 2006, from 31,000 in 2006 to 32,500 in 2007 (United States Fire Administration, 2009). Nevada which had the worst foreclosure rate in the United States saw an increase of 4% in vacant building fires in 2007 (Howley, 2008). A survey of 100 cities estimated that 18% of urban structures sit vacant or abandoned. But the problem may be worse because most cities can't or don't have the resources to track abandoned properties (Norbut, 2003).

It has long been known that vacant homes, particularly in urban areas are potential fire hazards. “Vacant homes can be set on fire by individuals preparing drugs, transients starting fires for warmth, vandals or insurance schemes” (Shai, 2006). Additional hazards are created when debris, which can be quickly ignited, is dumped. Shai explained that the presence of vacant buildings is not only a contributor to decline but an indicator of it as well. Unsecured

buildings not only deprive the city of revenue but often attract crime. Confidence in the neighborhood declines and tax paying residents start to leave.

The numbers of vacant buildings are staggering; in Brockton, MA there are over 700 vacants with 400 of them coming by foreclosure. “The abandoned structures, often owned by out-of-city lenders often attract vagrants, vandals and thieves, who invade the homes to steal valuable metals” (Allegrini, 2008 ¶ 7). In Minneapolis, MN there are over 800 vacant buildings. The city tries to assess the property owners for city services such as mowing the lawns, but it is often difficult because it is difficult to find out which bank owns the title (Williams, 2008).

Ohio has over 25,000 vacant or abandoned buildings between Cleveland, Columbus, Dayton, Ironton, Springfield, Toledo and Zanesville. In 2006, these buildings cost at least \$63 million in services and tax revenue (Armon, 2008).

Milwaukee has also suffered in today’s economy. “One of four citizen’s lives in poverty and Milwaukee has the 8th largest rate of poverty among large U.S. cities” (Glauber & Poston, 2009 ¶ 5). Although Wisconsin trails many of the states that had a real estate and price boom several years ago; Milwaukee County posted 542 foreclosures in December, 2008 (Gores, 2009).

Table 1

State Rates of Foreclosure

| State | Rate |
|------------|--------------------------|
| Nevada | 1 out of every 54 homes |
| Ohio | 1 out of every 161 homes |
| Nationally | 1 out of every 194 homes |
| Wisconsin | 1 out of every 1,341 |

The literature research found that the economy has a direct bearing on the rate of fires in vacant or abandoned buildings

Firefighting in Vacant Structures

The review of literature revealed the hazards of fighting fires in vacant buildings. Bayles (2000) reported that more firefighters are killed or injured in these types of structures than any other type of fire.

Recent incidents underline this fact. On February 5, 2008, six San Francisco, CA firefighters were injured, one severely in a building collapse at a vacant home. (Rubenstein & Van Derbeken, 2009) On November 15, 2008, Firefighter Walt Harris of the Detroit, MI Fire Department was killed when the roof collapsed at a vacant dwelling fire (LeDuff, 2008). On May 22, 2008, two Milwaukee, WI firefighters were injured when they fell through a weakened floor from the first floor to the basement in a vacant house (Stout & DeLong, 2008). In 1994, Milwaukee firefighter Lionel Hoffer was killed when he fell through a hole in the second floor at a fire in a two story vacant commercial building (United States Fire Administration, 2009).

Fighting fires in these structures present additional hazards to those in occupied structures. These include the unknowns of reduced structural integrity, possible booby-traps, drug paraphernalia and boarded up access points. James Quiggle (Howley, 2008) of the Coalition against Arson Fraud (CAAF) warns that arsons in homes follow foreclosure trends with a slight time lag. With the large surge in home foreclosures, it appears likely that fires in vacant homes will increase.

Fire Departments across the United States have faced fighting fires in abandoned buildings for many years. Some fire departments like FDNY and Chicago have developed standard operating guidelines (SOG's) for these structures. Some departments have adapted procedures where a confirmed vacant fire will be fought defensively. In Cleveland Heights,

Ohio this policy led to questions after a December 22, 2008 fire in which a person was found dead in a supposed vacant house (Newsnet 5, 2009).

Flint, MI also has a large number of vacant homes. The Flint Fire Department examined the problem of vacant building fires in their city and found that 40% of their structure fires occurred in vacant buildings. Also 62% of firefighter injuries occurred at these fires (Graves, 2007). The Flint Fire Department analyzed their fire statistics and reevaluated their SOG's for vacant building fires in their community.

Flint referenced the National Fire Protection Association's (NFPA, 2007) Standard 1500. Chapter 8 refers to Emergency Operations and gives the following advice, (a) what is the survival profile of any victims in the involved compartment, (b) we will not risk our lives at all for buildings or lives that are already lost, (c) we may only risk our lives a little, in a calculated manner, to save savable property, (d) and we may risk our lives a lot, in a calculated manner, to save savable lives.

The Flint report addressed the concerns of firefighters who felt they may be sued for operating in a defensive fashion at structure fires where a person may be inside. Previous Michigan cases were cited where the courts ruled in favor of the municipalities and firefighters based on governmental immunity. To be found liable the fire department would have to be grossly negligent. The Flint report also gathered SOG's from other fire departments regarding vacant buildings. Some excerpts are as follows: The Fire Department of New York City in 1986 established the following standard operating procedure for vacant buildings. "Members must take a no rush approach (p. 12)." In these buildings the firefighter is the primary life hazard. A slower, more cautious operation is clearly indicated. The life hazard is almost solely to that of our members. The primary emphasis in vacant building operations is that of an exterior attack. The Phoenix Fire Department vacant building procedure contains the following idea. "A well

involved building would likely represent a zero survivability profile.” Similar conditions in a vacant building would indicate little survivability and little property to be saved and members should avoid an offensive fire fight (p. 12).

The Fulton County Fire Department in Georgia address’s vacant buildings this way, “no property is worth the life of a member of the Fire Department” (p. 12). The Flint Fire Department’s report concluded that a fire in a vacant property, especially an open building, represents “a uniquely dangerous hazard that is waiting to injure and kill firefighters”.

Research showed that firefighters are killed and injured every year in vacant buildings. Incident commanders and firefighters need to be aware of the hazards in these structures and be able to adjust their tactics and strategies accordingly.

Solutions

Cities across the United States have struggled with abandoned buildings for many years. The review of literature included a number of illustrations on how municipalities are combating the problem of vacant structures.

Ohio is one of the states hardest hit by the current economic downturn. A study released in 2006 estimated that there were 25,000 vacant properties in Cleveland, Columbus, Dayton, Ironton, Springfield, Toledo, and Zanesville. These empty properties were costing these communities at least \$63 million a year in services and lost tax revenue (Armon, 2008). Summit County, Ohio designed a program using federal money to buy back foreclosed and abandoned neighborhoods to stabilize the neighborhood. The money was used to rehab, resell or raze these buildings and then save the land for future development.

In Louisville, KY, the metro government has a 311 phone line for residents to report vacant structures in their neighborhood. The city’s web site lists what owners can do and what the city can do. The city will raze buildings deemed beyond repair (City of Louisville, 2008).

The International Association of Arson Investigators list several recommendations to reduce fires in vacant buildings. The community needs to have ordinances and codes in place that allow them to act promptly when these structures are determined to pose a public safety hazard. The next step is to establish cooperation between the various city departments responsible for these buildings. Security is key, boarding up an empty structure is common, but regular, visible surveillance is needed to monitor the building. Many communities use a placard or marking system to designate vacant properties that are considered a risk for firefighters (Portland F.D., 2008). Once a building is secured and marked, a long term solution needs to be found. Either re-use or demolition of the building needs to occur (United States Fire Administration, 2009).

“While former factory towns in the northeast have the largest concentration of abandoned buildings, residents in western states seem to be the most creative in tackling the problem” (Bayles, 2000). Seattle’s old warehouse district had been converted into residential and commercial properties. Houston converted many vacant downtown buildings into offices.

Many times demolition of these buildings seems the best solution, but reclaiming and renovating these structures is on the rise. “A coalition of organizations recently banded together to launch the National Vacant Properties Campaign” (Norbut, 2003 ¶25). The group sees its mission to increase municipalities and the public’s awareness of vacant properties detriments and to serve as an educational and training resource on reclaiming and reusing these properties.

The Boston, MA neighborhood of Roxbury was for many years a symbol of urban blight. “Dozens of Victorian homes that had lain vacant since the 1960’s have been renovated and sold” (Paul, 2004 ¶ 2). Expensive real estate in Boston and Roxbury’s nearness to downtown has led to people wanting to move back in.

Schilling (2004) listed five steps that cities need to do to effectively address the problem of vacant buildings in urban America. The immediate need is to secure the buildings (by boarding if necessary). Local government needs to establish legally defensible standards for declaring these buildings a public nuisance.

Thirdly, the cost of boarding properties and abating nuisances can be recovered from the owner of the property. In reality, these bills are often disregarded or it is difficult to find out who the owner is. Therefore the city needs to devote sufficient funding to accomplish its goals. The city should use state and federal funds when possible. Programs to provide below market lending assistance for property owners seeking to renovate their properties. The last step is to ensure that zoning and housing code standards are up-to-date and have a practical enforcement mechanism (Shilling, 2004).

In 2007, Pittsburgh, PA city government doubled the budget for the demolition of condemned buildings. Mayor Luke Ravenstahl conceded that it “might be a drop in the bucket of how much is really needed” (Sheahan, 2007 ¶ 5).

In Milwaukee, WI, a 1989 task force on vacant and abandoned buildings made 18 recommendations to address this problem (City of Milwaukee, 1989). One of the suggestions that yielded results was a landlord training program offered by the City (Norquist, 1998). In March of 2005, a new city ordinance mandated homeowners of residential property that is left boarded up for six months or more to sell the home, demolish it, rehab it, or obtain a *mothball* [italics added] permit if the building is of historic significance. (City of Milwaukee, 2005)

Procedures

The descriptive method of research was used to answer the four research questions asked in this ARP. This ARP followed American Psychological Association (APA, 2005) standards and Executive Fire Officer (NFA, 2008) program guidelines. The first research question related

to framing the scope of the vacant dwelling fire problem in Milwaukee. In other words how many vacant building fires were occurring in Milwaukee? The author visited the Milwaukee Fire Department's historical archive room and collected the totals of past vacant structure fires and the total number of structure fires for those years from old annual reports. The search found that the MFD began keeping the numbers of vacant structure fires in 1964. There were annual reports printed up to 2004. For more current information, the Technical Services Section of the fire department was asked to gather the total number of fires in vacant structures from 2005 through 2008 along with the total number of structure fires. This information was gathered to determine the percentage of vacant building fires against the total number of structure fires in a given year.

The second research question asked what the social and economic effects of fires in vacant buildings are having on the City of Milwaukee. This question was answered through statistical analysis and an interview with Mr. Chris Kraco (C. Kraco, personnel communication, December 12, 2008) of the City of Milwaukee's Department of Neighborhood Services (DNS) on December 12, 2008. Mr. Kraco is the Supervisor for Zoning and Condemnations. The interview was conducted in the author's office at Fire Station 2 at 711 W. Wells Street in Milwaukee. Mr. Kraco was asked questions on the number of vacant buildings in the city and how they are tracked (Appendix B). He was also asked what the city is doing and what DNS' role is in regards to addressing this problem.

The third research question looked at what other American cities are doing to respond to the problem of vacant building fires in their cities. This was answered in conjunction with the fifth research question that asked what can be done to improve the current efforts in reducing the amount of fires in vacant structures. A questionnaire (Appendix D) was designed to ask other American cities what the scope of their vacant fire problem was and what they were doing to

address this problem. The participating cities were selected from an on-line list of U.S. cities by population from 300,000 to 3,000,000. The cities were selected because they surround Milwaukee in population and represent different geographic areas of the country. A list of the cities contacted is listed in Appendix E.

A letter explaining the purpose of the questionnaire (Appendix C), a self-stamped, self-addressed envelope and the questionnaire itself were mailed to each cities Fire Department administration. Because of their responsibility for data collection and policy implementation, the author felt that each department's administrative section would be best suited to answer the questionnaire.

The questionnaire asked eight questions (Appendix D). Questions 1 through 4 asked demographic information on the number of fires in vacant buildings and how many firefighter injuries occurred at these fires. Question five asked if the number of fires in vacant dwellings have increased, decreased or stayed steady. Question six asked if the recent economic downturn had increased the number of vacant fires. Question seven asked how fire departments typically attacked vacant structure fires. Finally, a question was asked what strategies city governments employ to address vacant buildings and the fire problem with them. The results are shown in Appendix F.

The results of the questionnaire were somewhat disappointing, of the 40 questionnaires mailed out only 17 were returned (42.5%). For future ARP's, use of an online questionnaire or survey might result in more responses.

The final research question asked what Milwaukee could do to further improve its efforts to further decrease vacant building fires. This question was answered primarily through the interview with Mr. Kraco (Appendix B) and a comparison of other American cities through the questionnaire. (Appendix F)

Results

The first research question asked what is the scope of the vacant building fire problem in Milwaukee? Data was collected and listed in Appendix A. Researching fire department records revealed that the Milwaukee Fire Department first became concerned about fires in vacant buildings in 1964 (MFD, 1964). That was the first year that the department recorded the number of fires in these structures. The problem of blighted buildings in the city caused Mayor Henry Maier to put together a task force on how to speed up the process of eliminating blighted buildings from the City (City of Milwaukee 1967). Vacant building fires peaked the next year in 1968 with 753 (Appendix A).

During the 1970's the incidence of fires in vacant buildings stabilized and averaged at 263 per year for the decade. The 1980's saw a further dropped to an average of 170. In 1989, another task force was organized at the request of Mayor John Norquist. This task force came up with 18 recommendations to attack the problem of blighted and vacant buildings in the city (City of Milwaukee, 1989). A good economy during the 1990's, and the implementation of many of the 1989 task force's recommendations led to a further drop in fires during the 1990's. Of the six years during the decade where data was available the city averaged 154 vacant building fires.

In 2005, The City of Milwaukee adapted new city ordinances that speeded up the time that it took to raze an unoccupied building (City of Milwaukee, 2005). From the time the Department of Neighborhood Services is notified a defined time line is followed. In the best case scenario a blighted building can be razed within 90 days. If feasible the City works with owners to rehab or sell the buildings.

With less blighted buildings available for arsonists, the number of vacant building fires in Milwaukee has dropped significantly in this decade. From 2005 through 2008, the City of Milwaukee averaged only 57 fires in vacant properties per year. The percentage of fires in

vacant buildings has generally stayed in the 7% to 10 % range. While fires in vacant buildings in Milwaukee have trended downwards, the questionnaire (Appendix F) revealed that 56% of the cities who replied stated that since the economic downturn they have experienced more fires in their empty buildings.

The second research question asked what the social and economic effects of these types of fires have on the City of Milwaukee. In 2008 the City of Milwaukee experienced 71 fires in vacant structures. This number is down from years past as Appendix A shows. While the numbers are down, the total amount of damage from fire to vacant buildings in 2008 was still \$1,318,700.00. The loss to the contents of these buildings was \$65,000.00. This amounted to almost \$1,400,000.00 in direct losses to these buildings. (Appendix G) The cost of securing, razing or rehabbing these structures also tests the already tight budget of the city. Sometimes funds can be recovered from the building owner but often only after a protracted fight which requires significant time, effort and resources.

The cost of these fires also shows up in the wear and tear on firefighting equipment. It shows up in any injuries that are suffered by firefighters or civilians. Lastly, there is a psychological cost. Firefighters and residents are put on edge when a series of fires threatens their neighborhood. (Rawlins, 2009)

What are other American cities to reduce the incidence of fires in their vacant properties? The International Association of Arson Investigators (2008), Schilling (2004), Shai (2006) all offer solutions on how to best handle the vacant building problem. It seems that there is a consensus on the following strategies.

1. Codes and ordinances must be in place to empower city government to act when these properties are determined to pose a public safety hazard (Robinson & Cole, 2007).

2. Cooperation between city departments. Often there is no interaction between agencies. The fire department may respond to the fire but not have the power to intervene prior. The building and health departments are usually the primary code authority. Surveillance usually is done by the police. Security, demolition or rehab of these buildings may be the responsibility of the community development department. All these agencies must work in concert.
3. Once an at-risk building is identified, community government must inspect the property and decide if it should be razed or reused. The building must be secured in the meantime. The United States Fire Administration through its Arson Prevention Initiative offers a brochure on how to secure a building (NFPA brochure).
4. Once the building is secure, a long term solution must begin either re-use or demolition. Reclaiming vacant properties is on the rise (Norbut, 2003). In many cases funding is available to provide below market lending assistance for property owners to renovate their buildings (Shai, 2006).

The questionnaire (Appendix F) asked respondents to list strategies that their city used to attack vacant building fires. Some of the responses are included here.

- The building is boarded up by Public Works when reported.
- Owner on record is assessed for any work done on the property.
- Liens placed on nuisance properties.
- The fire department notifies inspection department to secure the building.
- City government has speeded up the board up process.
- Created a list of vacant buildings and targeted those areas for increased police patrol.
- Fast track resale of vacant properties.
- Community and neighborhood groups made aware of vacant properties in the area.

The last research question asked what the City of Milwaukee could do to improve its efforts in reducing fires in abandoned structures and what could the MFD do to operate more safely at these fires. Appendix A gives a historical look at the number of fires in vacant structures over the last 45 years. It is clear that the number of these types of fires in Milwaukee have been steadily decreasing. So the tactics in use by city government have proved to be largely successful. Results from the questionnaire (Appendix F) included strategies that other cities have used to limit fires in vacant structures. Many of these are already in use by Milwaukee. Mr. Chris Kraco, Supervisor of Zoning and Condemnations for the City of Milwaukee (personnel communication, December 12, 2008) stated that new legislation in the Common Council regarding the registering of vacant or abandoned property is close to becoming law. He stated that this will help to identify who the lien holder is. Fines levied against out-of-state corporations or individuals are eventually paid when the property is sold.

Improvements as to how the Milwaukee Fire Department handles vacant buildings and fires in them can also be made. A Flint Fire Department report (Graves, 2007) gave examples of different fire department standard operating procedures for vacant buildings. The Portland, ME Fire Department uses a placard system to pre-identify buildings that have structural hazards.

Discussion

This research was undertaken to determine the extent of the vacant building fire problem in Milwaukee and what the best solutions are to reduce this type of fire. American cities have faced the problem of urban blight, for many years (Wilson & Kelling, 1982). Vacant and unsecured buildings are the most obvious sign of a neighborhood in decline (International Association of Arson Investigators, 2008). Beginning in the 1960's these buildings became the targets of arsonists in large numbers. The New York Fire Department even termed this period

the *war years* [italics added] (Fay, 2006). Milwaukee also faced an increase in these fires, peaking in 1968 (MFD Annual Reports 1964-2002). The results of the research showed that like many other urban areas, Milwaukee faced an ever increasing number of fires in vacant buildings in the 1960's.

The literary review also revealed a number of ways to reduce the numbers of vacant building fires. Schilling (2004), the International Association of Arson Investigators (2008), and Schai (2006) all offer strategies for combating this fires. These strategies have been embraced by the City of Milwaukee along with some local specific ordinances. The number of fires in vacant buildings in Milwaukee has steadily gone down, indicating that strategies used by city government are working.

Literature also suggested that the economic downturn will cause an increase in the number of fires in structures that are foreclosed on. Howley (2008) wrote that the surge in home mortgage defaults and foreclosures has led to an increase in home arson fires in states with the most repossessed homes. Although, Milwaukee has suffered in the current economy, the rates of foreclosure (Table 1) are way behind the national average. Vacant fires in Milwaukee have not gone up in response to the economy. This may change in the future and will have to be monitored by city government and the fire department.

What the research found was that the strategies to reduce the problem of vacant building fires are readily available from many sources. The research found that these programs do work. Milwaukee's experience proves that they do. All that is needed is the local government's commitment to establishing a workable program and then devoting the necessary resources to support the program. While the research found what could be called *best practices* [italics added] for municipal governments in combating abandoned building fires, each city must

determine what will work for its citizens. Once a strategy is in place, the government must be able to adjust it to fit local circumstances.

From a fire department view, department leaders must determine their response to these buildings. Are these structures worth the loss of a firefighter? Many times vacant buildings are waiting to be torn down. Good standard operating procedures and risk management guidelines need to be communicated to companies in the field.

Recommendations

This researcher undertook this project with the premise that vacant building fires were a significant problem for the City of Milwaukee. This was based on the number of fires in these structures that the author has responded to over the years. Secondly, the downturn in the economy seemed to promise that more of these fires would occur. Looking at other areas of the country that have suffered from the poor economy showed that fires in vacant or abandoned buildings are still a major problem in some cities.

But in Milwaukee's case, the research conclusively showed that the numbers of these fires have dropped significantly over the years, and efforts by city government to lessen these fires have been largely successful. Even though the numbers of abandoned building fires has gone down, vigilance on the part of city government's agencies must be maintained. The economic situation in the country has not improved and these types of fires may still appear in Milwaukee. Even with a successful program, improvements can still be made to Milwaukee's efforts regarding fires in vacant buildings.

The following suggestions were made to the Fire Chief. Two areas were studied, first general city government agencies response to abandoned and vacant buildings. Secondly, how the fire departments response to fires in these buildings could be improved.

Suggestions for City Government

City government has reacted well to focusing on the problem of abandoned buildings in the city. The Common Council has enacted ordinances in concert with the City Attorneys office that enable a speedy response once a vacant building is identified. The Department of Neighborhood Services has been tasked with being the lead city agency on these buildings. While the numbers bear out remarkable gains over the years, improvements can still be made. DNS could do a better job in monitoring the numbers of these types of buildings. They do have a data base of these structures, but as Mr. Kraco of DNS explained, “it’s very difficult to know the exact numbers of these buildings from month to month” (Personnel Interview, 2008). Mr. Kraco explained that the numbers of vacant houses are arrived at by verification of citizen complaints or referrals from other city departments. Right now there are 750 properties considered vacant but there may be up to three times that amount that the city doesn’t officially know about.

City government should do a better job of educating the public about reporting these buildings and how the presence of these structures devalues neighboring homes and business. Further they could partner with neighborhood groups to monitor vacant buildings for squatters or other illegal activities. They could make reporting of these buildings easier by allowing neighbors to use the 211 information phone number.

Suggestions for the Milwaukee Fire Department

The Milwaukee Fire Department could also improve some aspects of its responses to these buildings both prior to and during a fire. Fire Departments around the country will placard or mark buildings with known hazards in them. In past years when an MFD unit found a building hazard, it was difficult to share that knowledge with other fire companies. The first due

fire company may have known about a particular hazard in a building, but if they were on another call, a company unfamiliar to that building would fill in to answer an alarm there.

One way to remedy this would be to initiate a placard program. Portland, ME is one fire department that uses this program. When a building is found to have a hazard such as a hole in the floor or a weak stairway, that company can label the building with a placard that gives incoming companies some information on that structure. The suggestion to the MFD command staff would be to run this program out of the incident safety officer (ISO) office. When a company found a hazardous building, they could call the ISO to bring out a placard. The ISO and the company would then label the building. The ISO would keep a binder on hazardous buildings. The information could also be entered into the computer aided dispatch system (CAD) so that a warning could be included on the run printout sheet. As these buildings are torn down or rehabbed they could be removed from the system.

A lot of Milwaukee's older housing stock is built very close together, and in many cases there are only narrow gangways between houses. The Milwaukee Fire Department's preferred strategy has always been to aggressively make an interior attack. It didn't matter if the building was vacant or not, because if the fire was not quickly knocked down it could spread to residences on either side. This strategy will probably stay in place for the near future.

One suggestion would be for the department to issue a standard operating guideline (SOG) on operating at vacant buildings. The Flint, MI fire department report on vacant dwellings (Graves, 2007) referred to various fire departments SOG's. The proposed SOG for the MFD would reiterate the NFPA 1500 guidelines of: risking little to save property, risking a lot to save human life. SOG's for the New York City Fire Department mention slowing down actions at a vacant building fire. Training on this SOG would help company officers keep this risk analysis in mind.

The City of Milwaukee has successfully addressed the problem of fires in vacant and abandoned buildings. It took a combined effort between city agencies, effective city ordinances, and financing to make the programs work. The strategies used by Milwaukee have been proposed by other agencies and Milwaukee's experience has shown that these strategies can work. The important part is getting the financial backing to make these programs work. Additional funding may be available through state or federal grants.

Prior research has shown that more arson fires occur with a poor economy. With some commentators calling this the worst economy since the Great Depression, future researchers will want to see if the economy did in fact lead to more arson fires.

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Appendix A
Milwaukee Structure Fires &
Fires in Vacant Buildings

| <u>Year</u> | <u>Total Structure Fires</u> | <u>Vacant Structure Fires</u> | <u>Percent</u> |
|-------------|------------------------------|-------------------------------|----------------|
| 1964 | 2140 | 227 | 10.6% |
| 1965 | 1905 | 159 | 8.3% |
| 1966 | 2316 | 264 | 11.3% |
| 1967 | 2761 | 559 | 20.2% |
| 1968 | 3035 | 753 | 24.8% |
| 1969 | 2720 | 503 | 18.5% |
| 1970 | 2507 | 325 | 13.0% |
| 1971 | 2369 | 301 | 12.7% |
| 1972 | 2585 | 290 | 11.2% |
| 1973 | 2686 | 323 | 12% |
| 1974 | 2838 | 416 | 14.7% |
| 1975 | 2663 | 285 | 10.7% |
| 1976 | 2602 | 258 | 9.9% |
| 1977 | 2420 | 194 | 8% |
| 1978 | 2463 | 221 | 8.9% |
| 1979 | 2479 | 220 | 8.9% |
| 1980 | 2367 | 180 | 7.6% |

Appendix A (Continued)

| <u>Year</u> | <u>Total Structure Fires</u> | <u>Vacant Structure Fires</u> | <u>Percent</u> |
|-------------|------------------------------|-------------------------------|----------------|
| 1981 | 2319 | 174 | 7.5% |
| 1982 | 2131 | 144 | 6.75% |
| 1983 | 1877 | 119 | 6.3% |
| 1984 | 1896 | 174 | 9.2% |
| 1985 | 1914 | 141 | 7.3% |
| 1986 | 1766 | 158 | 8.9% |
| 1987 | 1823 | 155 | 8.5% |
| 1988 | 1875 | 195 | 10.4% |
| 1989 | 1860 | 264 | 14.2% |
| 1990 | 1700 | 202 | 11.8% |
| 1991 | 1602 | 171 | 10.6% |
| 1992 | 1439 | 152 | 10.6% |
| 1993 | 1309 | 113 | 8.6% |
| 1994 | 1230 | 160 | 13% |
| 1995 | NA | NA | |
| 1996 | 1399 | 131 | 9.4% |
| 1997 | 1318 | NA | |
| 1998 | 776 | NA | |
| 1999 | 789 | NA | |

Appendix A (Continued)

| <u>Year</u> | <u>Total Structure Fires</u> | <u>Vacant Structure Fires</u> | <u>Percent</u> |
|-------------|------------------------------|-------------------------------|----------------|
| 2000 | 749 | NA | |
| 2001 | 974 | NA | |
| 2002 | 911 | NA | |
| 2003 | 837 | NA | |
| 2004 | 837 | NA | |
| 2005 | 800 | 38 | 4.75% |
| 2006 | 776 | 47 | 6.1% |
| 2007 | 789 | 71 | 8.9% |
| 2008 | 657 | 71 | 10.8% |

NA-Information not available

Appendix B

Personnel Communication

Interview with Mr. Chris Kraco, City of Milwaukee

The interview took place on December 12, 2008 at the author's office at 711 W. Wells St; in Milwaukee, WI at 10:00 AM. The following questions were asked of Mr. Kraco who is the Supervisor of Zoning and Condemnations.

1. How many vacant structures are there in the City of Milwaukee today, and how is that number calculated? Mr. Kraco answered that the number is determined by citizen complaints, Alderman's office or referrals from other City Departments. Those building are in a data base. Currently there are about 750 residential properties officially vacant. There are probably at least 3 times more buildings that are vacant that we don't officially know about.
2. What strategies are in place today for City government to manage these properties and prevent fires from occurring in them? There are ordinances that require owners to board up vacant properties or charges from the city to board it up. If the building is declared abandoned or foreclosed the bank, lender or responsible agent shall register the property in the name of the lien holder with the city." The registered party has the duty to maintain the property, or conduct needed repairs and assuring there are no risks to the public health and safety.
3. What suggestions would you have to improve city government's efforts in preventing vacant building fires? Mr. Kraco mentioned increasing public awareness of the problem of vacant buildings and how they can notify city government of the presence of these buildings in their neighborhoods. It is difficult to contact out of state banks, because it takes a lot of time and people to run them down. Eventually it will get easier as the information is saved for the next time when the same bank comes up. Making the banks understand it is in their interest to maintain their assets is the key to getting their cooperation.

Appendix C

November 20, 2008

Dear Fire Service Professional:

My name is Jim Ley and I am a Fire Captain with the Milwaukee Fire Department. I am currently enrolled in the Executive Fire Officer Program at the National Fire Academy in Emmitsburg, MD. As part of the curriculum, we are required to complete an applied research paper on some aspect of the fire service. For the class that I recently completed, I am writing on how to reduce the number of vacant building fires in Milwaukee.

As part of this project, I am gathering information on the scope of vacant house fires in communities across the country. Enclosed is a short questionnaire that I ask that you fill out and return in the self-addressed stamped envelope that I have enclosed.

Confidentiality will be maintained on all information collected. The final results will only include averages and percentages on the data collected. Results of the questionnaire are available on request.

Your assistance will hopefully contribute to the reduction of fires in Milwaukee and thus reducing injuries to our brother and sister firefighters.

Thank You,

Jim Ley
Fire Captain/ Incident Safety Officer
Milwaukee Fire Department
711 W. Wells Street
Milwaukee, WI 53233

Home Address:
3228 S. 83rd Street
Milwaukee, WI 53219
Email: jhley@sbcglobal.net

Appendix D

Fires in Vacant Buildings Questionnaire

The purpose of this questionnaire is to seek information on your city’s experience with fires in vacant buildings.

- 1. What is your city’s population? _____
- 2. How many structure fires did your city experience in 2007? _____
- 3. How many of these fires occurred in vacant buildings? _____
- 4. How many firefighter injuries occurred at vacant building fires? _____
- 5. In recent years, have fires in vacant buildings in your community.....(check one)
- 6. Since the economic downturn of this year, have fires in vacant buildings in your city increased? Yes _____ No _____
- 7. Does your department use offensive firefighting tactics on known vacant buildings?
Yes _____ No _____ Incident Commanders decision _____
- 8. Cities use various strategies to reduce fires in vacant or abandoned buildings. Please list some strategies that your city uses to combat this problem.

Please return in the enclosed envelope, thank you!

Appendix E

Cities Contacted for Questionnaire

| <u>City</u> | <u>Population</u> | <u>City</u> | <u>Population</u> |
|-------------------|-------------------|-----------------|-------------------|
| Chicago, IL | 2,836,658 | Pittsburgh, PA | 311,218 |
| Philadelphia, PA | 1,449,634 | Toledo, OH | 295,029 |
| Detroit, MI | 916,512 | St. Paul, MN | 277,251 |
| Indianapolis, IN | 795,458 | Buffalo, NY | 277,632 |
| Columbus, OH | 747,755 | Fort Wayne, IN | 251,247 |
| Memphis, TN | 674,028 | Lincoln, NB | 248,744 |
| Milwaukee, WI | 602,191 | Jersey City, NJ | 242,389 |
| Boston, MA | 599,351 | Madison, WI | 228,775 |
| Nashville, TN | 590,807 | Akron, OH | 207,934 |
| Denver, CO | 588,349 | Rochester, NY | 206,759 |
| Washington, DC | 588,292 | San Jose, CA | 939,899 |
| Louisville, KY | 557,789 | Seattle, WA | 592,210 |
| Oklahoma City, OK | 547,274 | Portland, OR | 550,396 |
| Kansas City, MO | 450,375 | Atlanta, GA | 519,145 |
| Cleveland, OH | 438,042 | Long Beach, CA | 466,250 |
| Minneapolis, MN | 377,392 | Sacramento, CA | 462,242 |
| Wichita, KS | 361,420 | Miami, FL | 409,719 |
| St. Louis, MO | 350,759 | Oakland, CA | 401,489 |
| Cincinnati, OH | 332,458 | Riverside, CA | 294,437 |

Appendix F

Questionnaire Results

1. Question 1 asked for the city's population. The total population of the city's that returned a questionnaire was 7,946,186 or an average of 467,422.
2. Question 2 asked how many structure fires each city responded to in 2007. There was a total of 18,691 structure fires responded to or an average of 1,099 per respondent.
3. Question 3 asked how many vacant building fires that city responded to in 2007. Five of the respondents could not provide that information. Of the 12 cities that could answer this question, there was an average of 149 vacant building fires.
4. Question 4 asked how many firefighter were injured in 2007 at vacant structure fires. Nine of the cities (52.9%) could not provide figures for this question. The 6 cities that could track this information had a total of 37 firefighter injuries.
5. Question 5 asked if the number of vacant structure fires was going up, staying steady or going down. Two cities did not answer. Of the remaining 15, 7 or 46.6% answered that these type of fires were increasing. Three or 20% answered that fires in vacant structures were going down. Five cities (33.3%) reported that the number of vacant building fire was holding steady.
6. Question 6 asked if the current economy was causing an increase in vacant building fires. Ten of the responding cities (66.6%) stated that they were seeing an increase in vacant building fires due to the economy. Five cities (33.3%) answered that they were not seeing an increase. Two cities did not answer the question.
7. Question 7 asked if the fire department regularly used offensive firefighting tactics on vacant structures. All respondents answered that it was the incident commanders discretion as to what tactics were used.

Appendix G

Milwaukee Vacant Building Fires in 2008 & Loss

2008 Vacant Fires

| Date & Time | Address | Contents | Structure |
|-----------------------|-------------------------------|-----------|-----------|
| 1/31/2008 3:23:55 AM | 2201 N 40TH STREET | 0.00 | 40,000.00 |
| 1/31/2008 2:21:34 PM | 1624 W GRANT STREET | | |
| 2/15/2008 2:21:04 AM | 2039 N 23RD STREET | 0.00 | 40,000.00 |
| 2/18/2008 5:45:12 PM | 2824 N 34TH STREET | 0.00 | 30,000.00 |
| 2/19/2008 4:54:07 PM | 2041 N 33RD STREET | 0.00 | 50,000.00 |
| 2/19/2008 4:54:07 PM | 2037 North 33RD Street | 0.00 | 10,000.00 |
| 3/2/2008 8:17:14 AM | 3880 N 26TH STREET | 0.00 | 500.00 |
| 3/8/2008 3:01:30 AM | 4045 S TAYLOR AVENUE | | |
| 3/22/2008 4:06:20 AM | 1309 W CLARKE STREET | 0.00 | 80,000.00 |
| 3/26/2008 11:03:34 PM | 3615 W VILLARD AVENUE | 0.00 | 1,000.00 |
| 3/28/2008 3:46:48 AM | 3420 W BURLEIGH STREET | 0.00 | 40,000.00 |
| 4/5/2008 8:49:10 PM | N. MOTHER SIMPSONS Way AND | 0.00 | 10,000.00 |
| 5/6/2008 6:44:49 PM | 2119 N 25TH STREET | 0.00 | 27,000.00 |
| 5/6/2008 8:52:00 PM | 4226 W HAMPTON AVENUE | 0.00 | 10,000.00 |
| 5/10/2008 9:34:25 PM | 2209 -11 N 41ST STREET | 0.00 | 15,000.00 |
| 5/11/2008 10:39:01 AM | 2343 N HOLTON STREET | 0.00 | 40,000.00 |
| 5/17/2008 6:44:13 PM | 2718 N 53RD STREET | 0.00 | 2,000.00 |
| 5/19/2008 1:08:21 AM | 2534 N 2ND STREET | 0.00 | 30,000.00 |
| 5/28/2008 11:14:59 PM | 2128 N 39TH STREET | 0.00 | 3,000.00 |
| 6/3/2008 10:39:29 AM | 3265 N 14TH STREET | 1,000.00 | 15,000.00 |
| 6/6/2008 1:29:19 AM | 1722 S 24TH STREET | 0.00 | 15,000.00 |
| 6/7/2008 4:29:34 AM | 2377 N 48TH STREET | 0.00 | 25,000.00 |
| 6/13/2008 7:43:56 AM | 2634 North 19th Street | 0.00 | 5,000.00 |
| 6/27/2008 11:02:52 AM | 2553 N 14TH STREET | 0.00 | 6,000.00 |
| 6/28/2008 3:21:47 AM | N 33RD STREET AND W HADLEY | 0.00 | 5,000.00 |
| 6/28/2008 4:58:04 AM | 2801 N 33RD STREET | 0.00 | 10,000.00 |
| 6/29/2008 8:03:20 PM | 4640 N 51ST BOULEVARD | 1,000.00 | 10,000.00 |
| 7/3/2008 9:48:54 AM | 3264 N ACHILLES STREET | 0.00 | 3,000.00 |
| 7/4/2008 12:50:19 AM | 2145 N 29TH STREET | 0.00 | 5,000.00 |
| 7/4/2008 1:36:40 PM | 2454 N BUFFUM STREET | 0.00 | 1,000.00 |
| 7/5/2008 1:38:49 AM | 3656 N 13TH STREET | 0.00 | 5,000.00 |
| 7/6/2008 1:58:39 PM | 2355 North 45th Street | 0.00 | 10,000.00 |
| 7/12/2008 12:46:01 AM | 5325 N 38TH STREET | | |
| 7/14/2008 4:20:14 AM | 2811 N 27TH STREET | 10,000.00 | 50,000.00 |
| 7/25/2008 3:05:51 AM | 2239 N 44TH STREET | 0.00 | 2,000.00 |
| 7/27/2008 12:53:53 AM | 2444 N 2ND STREET | 0.00 | 40,000.00 |
| 7/28/2008 11:05:35 PM | 1510 S LAYTON BOULEVARD | 0.00 | 6,000.00 |
| 7/28/2008 11:59:48 PM | 2534 N 2ND STREET | 0.00 | 0.00 |

| | | | |
|------------------------|-----------------------------------|-----------|-----------|
| 8/1/2008 10:01:38 PM | 3256 N 25TH STREET | 1,000.00 | 30,000.00 |
| 8/2/2008 11:43:18 PM | 2342 N 2ND STREET | 0.00 | 500.00 |
| 8/10/2008 12:34:25 PM | 3953 N 13TH STREET | 0.00 | 2,000.00 |
| 8/11/2008 11:03:38 PM | 2339 N 14TH STREET | 2,000.00 | 40,000.00 |
| 8/12/2008 8:35:21 PM | 2513 N 40TH STREET | | |
| 8/15/2008 6:25:41 AM | 2342 N 2ND STREET | | |
| 8/19/2008 5:40:02 AM | 3429 N 12TH STREET | 0.00 | 20,000.00 |
| 8/23/2008 2:01:23 AM | 2449 N 18TH STREET | | |
| 8/25/2008 4:38:56 PM | 4407 N 26TH STREET | 0.00 | 500.00 |
| 8/26/2008 10:51:00 AM | 2622 N 20TH STREET | 0.00 | 500.00 |
| 8/27/2008 6:04:41 AM | 2442-44 N 2ND STREET | 0.00 | 86,500.00 |
| 8/28/2008 1:36:10 PM | 5510 N 35TH STREET | | |
| 9/1/2008 4:05:13 AM | 3057 N 47TH STREET | | 200.00 |
| 9/3/2008 12:33:44 AM | 1116 W WRIGHT STREET | | 15,000.00 |
| 9/4/2008 1:07:07 AM | 2529 N 33RD STREET | 0.00 | 65,000.00 |
| 9/7/2008 6:57:18 AM | 2345 N 14TH STREET | 0.00 | 50,000.00 |
| 9/13/2008 9:03:12 AM | 2431 N 38TH STREET | 0.00 | 12,000.00 |
| 9/17/2008 6:04:24 PM | 1234 W GREENFIELD AVENUE | 0.00 | 30,000.00 |
| 9/28/2008 11:35:51 PM | 2621 N 23RD STREET | 0.00 | 1,000.00 |
| 10/1/2008 1:48:12 AM | 3214 N 34TH STREET | 50,000.00 | 20,000.00 |
| 10/1/2008 10:12:53 PM | 2849 N 5TH STREET A | 0.00 | 5,000.00 |
| 10/5/2008 5:09:06 PM | 2640 N 23RD STREET | 0.00 | 30,000.00 |
| 10/6/2008 10:56:00 AM | 2977 N 6TH STREET | 0.00 | 20,000.00 |
| 10/9/2008 6:52:47 AM | 2454 W CLARKE STREET | 0.00 | 25,000.00 |
| 10/11/2008 7:54:26 PM | 2440 W MEDFORD AVENUE | 0.00 | 15,000.00 |
| 10/11/2008 11:49:23 PM | 2705 W WRIGHT STREET | | 5,000.00 |
| 10/12/2008 1:12:11 AM | 2705 W WRIGHT STREET | | 15,000.00 |
| 10/20/2008 5:29:29 AM | 2745 N 37TH STREET | 0.00 | 15,000.00 |
| 10/23/2008 2:04:37 PM | N. 49TH Street & West ROHR AVENUE | 0.00 | 75,000.00 |
| 10/24/2008 3:18:38 PM | 2312 W CLARKE STREET | 0.00 | 45,000.00 |
| 10/26/2008 8:53:06 AM | 2944 N 13TH STREET | 0.00 | 20,000.00 |
| 11/19/2008 2:50:26 AM | 2665 N 25TH STREET | 0.00 | 25,000.00 |

65,000.00 1,318,700.00