What is the Reality of Performing a Fire Inspection for the City of Van Wert?

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CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. 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.

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ABSTRACT

This research project dealt with the Van Wert Fire Departments (VWFD) inability to conduct commercial fire inspections in a consistent rotation to its community, possibly causing life safety hazards for its occupants and firefighters during an emergency.

The purpose of this research was to determine how to provide the manpower and resources to our customers at an unbiased and impartial systematic manner.

This research project was conducted by using the descriptive research method to examine the following questions:

1. Why is there a need to do annual fire inspections?
2. How many man hours on average are needed to complete a fire inspection?
3. What is the cost to perform fire inspections?
4. How do other departments complete their fire inspections?

Literature review, interviews with current and past fire prevention officers (FPO), and an internal data collection by our current FPO's was conducted and external survey to full-time and combination full-time and part-time fire departments were utilized in conducting the research.

The study and literature produced data that provided information for the VWFD to develop and enact better fire prevention activities that would give the VWFD sound goals to achieve.

The need for inspections are clear in the ORC, OAC and the literature revealing the enhanced safety from performing them. This lead to the recommendation of performing a risk evaluation on each commercial property that can be categorized into a

defined rotation. This rotation can be determined once that occupancy is categorized by its risk. The fees associated with fire inspections can also be determined by the cost of the inspector and the time to do an average inspection. The research shows the need for increased inspection fees. Due to the size of the fire department and number of commercial occupancies the need for a full time fire inspector is warranted, but not feasible do to the cities financial hardship. The department will need to continue its use of the fire chief and lieutenants to perform inspections with the assistance of company inspections when warranted.

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Thank you very much,

Jon Jones

Van Wert, July 4, 2017

INTRODUCTION

Statement of the Problem

The problem this study will address is that the Van Wert Fire Department (VWFD) is unable to meet the needs of providing a consistent fire inspection rotation to all of its commercial businesses causing possible life safety problems for occupants and firefighters during an emergency.

Purpose of the Study

The purpose of this study is to identify the manpower and resources needed in performing fire inspections in commercial occupancies and develop a program to complete those inspections on a consistent and impartial rotation.

Research Questions

The following questions will be answered by this descriptive research:

1. Why is there a need to do annual fire inspections?
2. How many man hours on average are needed to complete a fire inspection?
3. What is the cost to perform fire inspections?
4. How do other departments complete their fire inspections?

BACKGROUND AND SIGNIFICANCE

The Van Wert Fire Department is an Insurance Service Office (ISO) class four full time fire department presently with nineteen full time personnel. We are located in northwest Ohio near the Indiana state line on U.S. Interstate 30 between Lima, Ohio and Fort Wayne, Indiana. The median household income is $37,030 and the median house value is $79,715 (Informatics, 2016) We work a three platoon system, with three shifts of six personnel. Each shift has a shift Captain and Lieutenant. We also have the availability of ten part-time personnel. The VWFD provides fire protection, emergency medical services (EMS), hazmat, confined space, high angle rescue, water rescue, public education, code enforcement and fire prevention service to the citizens of the city of Van Wert. The population of Van Wert is 10,846 ("Population estimates, July 1, 2015, (V2015)," n.d.), and it is the county seat. The VWFD also provides services to a limited amount of township properties adjacent to the city limits.

The 2017 operating budget for the VWFD was $2,153,473 with 90 percent or $1,943,170 of the budget being personal Services and Fringe Benefits. (City of Van Wert, 2017)

Furthermore, the department also provides Advanced Life Support EMS for the entire county of 28,562 people. ("Population estimates, July 1, 2015, (V2015)," n.d.).

The VWFD also has mutual aid agreement with all the volunteer departments in the county for services as needed. In 2016 the VWFD saw an increase of 23% in incidents over the previous three years. Run volumes for the past five years were as follows: (Van Wert Fire Department, 2017)

2016: 253 Fire and 1633 EMS

2015: 222 Fire and 1383 EMS

2014: 194 Fire and 1324 EMS

2013: 205 Fire and 1251 EMS

2012: 231 Fire and 1238 EMS

2011: 236 Fire and 1324 EMS

Along with emergency responses we complete all our own annual fire hydrant flow test, ladder testing, hose testing and perform minor maintenance on vehicles.

A daunting problem that exists in the Van Wert Fire Department in Van Wert, Ohio is that currently we are failing to inspect all business occupancies on an annual basis in our jurisdiction. Within our fire authority, we have 514 business occupancies that we need to inspect annually. During the past five years, we have averaged 103 annual inspections yearly. This represents just over 20 percent of the occupancies being inspected yearly. "Fire Prevention inspections are the single most important nonemergency activity performed by the fire service" (Wieder & Smith, 1998, p. 5) and as a department we are falling short in our prevention program on a yearly basis.

In 1975, the Van Wert Fire Department created a Monday through Friday Fire Bureau staff position of forty hours a week. The position originally was occupied by a Captain appointed by the Fire Chief, and this was continued until 2008. In 2008, the fire department lost our Fire Inspector through attrition with the decline in the economy.

Today, our daily operations are accomplished with a Fire Chief (Monday through Friday) and three shifts of six people including a Captain, Lieutenant, and four firefighters. The inspection duties are shared among the Fire Chief and the three lieutenants. The Fire Chief normally does the plan reviews and final inspections for new occupancies. Additionally, lieutenants share annual life safety inspections with each having certain specialized duties split among the three of them. The duties entail public education, billing, and the scheduling of

inspections. Currently, the lieutenants are required to complete three new inspections per month for a total of 108 per year. Furthermore, this goal is set by a monetary amount that is desired to be reached in our yearly budget.

Consequently, with lieutenants on the duty shifts doing most of the annual inspections it causes some difficulties within our daily activities. One struggle we commonly encounter is with our department's minimum manning of four personnel is just trying to get the lieutenants out for inspections. When the department only has four personnel working, the Lieutenant will have to take either a medic with three personnel to do the inspection or go by themselves in a staff vehicle and meet the medic for an EMS call or the engine for a fire response. Along with trying to fit inspections in between daily duties and our annual duties, we also have to complete training, maintenance, yearly testing of equipment and respond to emergency incidents.

Furthermore, company inspections are extremely difficult to coordinate since we have to man our station at all times, we receive 911 calls via telephone, and someone has to be on station to answer the phone. In addition, inspections normally can only be completed during normal business hours of 8 a.m. to 5 p.m. Monday through Friday throughout the year. This limits each lieutenant to approximately seventy days per year to perform inspections after excluding time-off and weekends.

To calculate workable days in a year for a full-time inspector, we need to multiply the number of days in one week the inspector works times 52 weeks in a year. Then subtract from this total the number of vacation days, holidays, training days, sick time, and other days allocated to other duties than inspection for that inspector for that year. To calculate workable hours in a year for a full-time inspector, first find the number of hours the employee works in one day, this number is typically eight hours. Multiply this number by the number of workable days in a year

(as calculated above) making this number of workable hours in a year for a full-time inspector. ((365 days – 104{weekend days} = 262 days) x 8 hours = 2096-(240 {holiday hours} and 144 {vacation hours annually} for 1712 hours annually).

Another problem that is encountered is the unpredictability of who will be inspected yearly, except for schools and daycare centers. The inconsistency is that some occupancies will be inspected yearly procuring a yearly fee, and others may go years without being inspected. Unfortunately, some occupancies have not been inspected for over ten years, causing other occupants to be distraught about the fairness of yearly fees.

A current recommendation, presented to the city administration, has been the addition of an added lieutenant to be placed in a staff position and the inspector bureau would be occupied on a rotational basis. So far, this has been denied by the administration since 2008 due to fiscal difficulties. Fiscal difficulties tie to the decreased funding from the State of Ohio, phasing out of Local Government Funds starting in 2009 and the loss of the Inheritance Tax income in 2014. (M. Balyeat Van Wert City Auditor, personal communication, August 15, 2017) Estimated cost of a dedicated fire inspector using our current rate as a Lieutenant would be approximately $82,000 a year with salary and benefits (City of Van Wert Bargaining agreement 2017). Currently, the city is in a financial hardship and has been since 2008. The city has lost state funding over the years causing a downturn in spending. Presently, the city has a .22 tax that was passed by voters in 1999 that generates finances for the fire and police departments in capital improvements. (Van Wert Ordinance 7000-99) At first all the monies were used for capital purchases but in 2010 the voters voted to amend this ordinance for the use of two-thirds of the monies for the salaries of the city safety departments, during periods of financial hardship. Presently the city is has attempted to pass a tax increase of 0.28% on the ballot, May and

November of 2017, to attempt an increase of an estimate one million dollars in city general fund. The levy failed on both attempts. Due to the failure of the tax levy the city administration and city council have elected to place a hiring freeze within the city.

Another item to contemplate would be the conceivable gain in revenue if we could inspect all occupancies yearly. Although the core reason we do inspections is not for monetary gain, but in today's age, all possible resources for incomes should be examined. We currently charge $95 for an annual inspection. For new construction, we charge $195 and for home inspections, the fee is $20. There is also a $45 charge if we need to re-inspection the occupancy. ("American legal publishing - online library," n.d.) Lastly, if we were able to complete inspections in all occupancies yearly, the additional 400 inspections at the $95 per inspection would generate approximately an extra $38,000 of revenue annually, not including any residential inspections throughout the year, plan reviews or re-inspections.

In the past with a staff inspector's position, it helped decrease many of the previously mentioned problems. It gave the public a recognizable person that could conduct inspections and answer questions on a more constant and uniform basis throughout the week. However, when staffed full time, the Bureau still fell short inspecting all occupancies annually. In its early stages it was occupied by the same person for years and it was used in many ways besides inspections. It also served as the fire investigation office, and as an additional officer. After many years in that function, there was a change in the fire chief's office, and the person appointed to the Inspection Bureau was primarily there for the convenience of the nine to five hours more than the commitment to the position. The person became a catch-all substitute for any person that needed off shift for personal reasons. In 1998, the Van Wert Fire Department held a Certified Fire Inspectors class and all nineteen full-time personnel became certified. However, through

personnel separating employment, retirements, and the hiring of new personnel, we currently have ten out of our nineteen full-time personnel employees who are Certified Fire Inspectors. Additionally, an advantage to having multiple persons doing inspections is that more personnel are seeing the occupancies, and specific things that might be overlooked by one inspector could be spotted by a different one. The department is also looking at going digital to help make the process of doing inspections easier and faster.

The result we are striving for is to have a better program for the safety of our community by inspecting all occupancies annually. If we complete more inspections, safety issues that could affect the occupants and firefighters could be resolved earlier, reducing life safety hazards and fires in the future.

The potential impact this study could have on the Van Wert Fire Department is an amplified awareness of the immediate need to increase our yearly inspections within our community for our safety and our citizens. Additionally, it will give our firefighters a more current knowledge of the buildings reducing the loss of life of citizens and firefighters.

LITERATURE REVIEW

Originally, fire service was formed to respond to fires and provide fire suppression beginning over two thousand years ago in the Roman Empire. Organized firefighting came to North America in the 1600s. There are many historical documents and photographs depicting heroic firefighters battling fires and performing heroic actions, but all of this was just a reactive approach to the emergencies portrayed. Over the centuries following many devastating fires, citizens began to realize that preventing fires was far better than having to extinguish them. (Murnane, Stowell, Adams, & Clausing, 2009. p.1)

In 2015, there were 1,345,500 fires reported in the United States. These fires caused 3,280 civilian deaths, 15,700 civilian injuries, and $14.3 billion in property damage. The average loss per structure has remained relatively unchanged since 1977 when it was $14,600 and $20,700 in 2015, per structure in 2015 dollars. (National Fire Protection Association). The U.S. fire problem no longer ranks as the most severe of the industrialized nations, although for many years the United States did lead in fire losses. Yet, thousands of Americans die each year, tens of thousands of people are injured, and property losses reach billions of dollars. There are huge indirect costs of fire as well — temporary lodging, lost business revenues, medical expenses, psychological damage, and others. To put this in context, the annual losses from floods, hurricanes, tornadoes, earthquakes, and other natural disasters combined in the U.S. average just a fraction of those from fires. The public, the media, and local governments are generally unaware of the magnitude and seriousness of the fire problem to individuals and their families, to communities, and to the nation. (United States Fire Administration, 2016).

The National Fire Protection Association (NFPA) defines for the fire service in NFPA 1600 the term prevention refers to activities, tasks, programs, and systems intended to avoid or intervene in order to stop an incident from occurring. Prevention can apply both to human-caused incidents (such as terrorism, vandalism, sabotage, or human error) and naturally occurring incidents. Prevention of human-caused incidents can include applying intelligence and other information to a range of activities that includes such countermeasures as deterrence operations, heightened inspections, improved surveillance and security operations, investigations to determine the nature and source of the threat; and law enforcement operations directed at discouragement, preemption, interdiction, or disruption. (“NFPA 1600: Standard on

disaster/emergency management and business continuity/continuity of operations programs," 2016)

In 1978, the National Fire Protection Association and Urban Institute conducted a study, Fire Code Inspections and Fire Prevention: What Methods Lead to Success? The authors held the assumption that fire prevention and fire inspections are intended to protect against unintentional fires, or those fires that are not purposely set. They found that unintentional fires can be divided into two classes: those that involve relatively visible hazards easily remedied by direct action and those that involve behavioral errors or electrical or mechanical failures not easily visible before ignition. In properties that are required by code to be inspected in all the communities examined, the fires from the latter circumstances greatly outnumbered fires due to visible hazards that inspectors are likely to order corrected. Also, most of the fire incidents that resulted in ten or more civilian deaths involved preventable circumstances. (Hall, et al. 1978)

Additionally, the 1978 NFPA/UI study team recommended that departments make it a policy to annually inspect all or nearly all public buildings, as fire rates are lower when inspection rates were higher. (Hall)

In 2006, a needs assessment of the U.S. Fire Service found that 25.2% responding fire departments reported that no one conducts fire-code inspections within their communities. As a result, an estimated 20.3 million people, or 7% of the population, live in communities where no one conducts fire-code inspections.

Whereas, in the United Kingdom, quality is essentially a measure of effectiveness, in terms of final outcomes. The UK Centre for the Measurement of Government Activity notes that the quality of the fire prevention program can be measured by the amount of awareness raised,

changes in behavior, and reduction in the number of fires started. (National Fire Protection Association and Fire Protection Research Foundation).

Fire prevention has evolved over the centuries. Many, if not all, fire codes today are the results of tragic historical fires. One of the first organized groups to address fire prevention concerns was the National Association of Fire Engineers (which later became the International Association of Fire Chiefs). During its first meeting they developed a list of eight safety concerns that to this day are the basis for a number of current fire and building codes. (Barr & Eversole, 2003. P.1039).

In 1972 President Richard Nixon appointed a commission, the National Commission on Fire Prevention and Control, to examine the United States' fire problem. In 1973, a distinguished report called “America Burning” was presented to President Nixon. In this report, ninety recommendations were made. One of these recommendations was, "The commission recommends that local governments make fire prevention at least equal to suppression in the planning of fire department priorities" (N.p., 2016. Web. 28 Nov. 2016. p. 18).

The State of Ohio uses the Ohio Revised Code (ORC) for laws, ordinances and rules to govern prevention activities in fire departments. The Ohio Administrative code clearly defines the need for inspections (1) 104.1 General. The fire code official is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

"The State Fire Marshal, the fire chief of a municipal corporation that has a fire department, or the fire chief of a township that has a fire department shall enforce the provisions of this chapter and chapter 3791 of the Revised Code that relate to fire prevention" (Ohio 16 Revised Code, 2009). This statement found in chapter 3781 of the Ohio Revised Code requires that a fire chief enforce the Ohio Fire Code and perform fire safety inspections within his/her jurisdiction. "The fire code official is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code." (Ohio Administrative code 1201:7-7-01 Section 104.1.1)

(a) 104.1.1 The state fire marshal or fire chief of municipal corporations having fire departments or the fire chief of townships having fire departments shall enforce all provisions of Chapters 3781. and 3791. of the Revised Code, and any rules promulgated pursuant to those chapters, relating to fire prevention.

Under the ORC fire departments have the rights to conduct fire inspections, inspect buildings, and premises under the Ohio Revised Code 3737.14. The code also gives the fire chief or his designee the legal right to examine buildings, premises or vehicles. Furthermore, in the ORC it lists the duties of the fire marshal or bureau of the fire marshal in section 3737.22 Lastly, the ORC under section 3737.24 states that any major fire in which property is destroyed that the fire marshal "shall make an investigation to determine whether the fire was the result of carelessness or design". (Ohio Administrative Code)

According to the book, *Organizing for Fire and Rescue Services*, it states that, "Inspections conducted as part of code enforcement help to ensure compliance with mandated life safety conditions within a structure" and that, "Inspections, which are intended to prevent fires from occurring, are effective because the inspector identifies fire hazards that could cause a fire, allow a fire to develop, or allow a fire to spread" (Cote, 2003, p.313)

Today, in our department as in many departments, we place importance on training for fire suppression, but, in reality, fire prevention is considered to be the most important non-fire suppression activity a fire department be involved in. (Barr & Eversole, 2003. p.1037).

When performing a fire safety inspection, the inspector will have many tasks to complete before, during and after the inspection. There are numerous influences that affect the length and complexity of the inspection including: size of the occupancy, operations within, if it is a regular inspection or follow-up, location, and the inspector's familiarity and personal experience performing an inspection. (Murnane, Stowell, Adams, & Clausing, 2009. p.730).

According to our fire inspectors, they would normally review the occupancy record prior to the actual inspection. Our inspectors normally do an inspection without prior notification, unless it is a large occupancy if a contact will need to meet them to gain entry into the occupancy. During the inspection, small infractions are noted and immediately corrected if possible and other infractions may need to be researched and followed up later with a verbal and written report. This complete process including research, scheduling, inspection, infraction research and follow-up inspection can take a total of one to three hours. (Cummings, D., Miller, R., Steyer, N. Personal interview. March 15, 2017)

According to the NFPA, regardless of the variations or the methods chosen by the fire department for conducting fire inspections, ultimately, the intended outcomes remain the same:

corrected conditions of hazards that posed a threat to life and property, based on legally adopted code requirements, and motivated owners and building managers that are educated as to hazards and proper methods for prevention. All of which result in a reduction in the number of fires within the community. (National Fire Protection Association and Fire Protection Research Foundation).

NFPA addresses this in 1730 in the standard Organization and Deployment of Fire Prevention Inspection, Plan Review, Investigation, and Public Education Operations. In this standard it defines that an Authority Having Jurisdiction (AHJ) shall organize a Fire Prevention Organization (FPO). It defines a minimum fire inspection frequency which further breaks the occupancies down into a risk classification shown in NFPA Table 6.7 Minimum Inspection Frequency under Appendix 1.

Furthermore, NFPA 1600 further defines how an occupancy meets the above criteria. A high-risk occupancy has a high frequency of fires, potential of loss of life or economic loss or has low to moderate fire loss or loss of life but the occupants have a high dependency on the built-in fire protection features or the need of staff member to assist in evacuation during an emergency. Common high frequency structures are apartment buildings, hotels, dormitories, lodging and rooming, assembly, child care, detention, educational and health care facilities. A moderate risk occupancy has a moderate history of fires with moderate potential for loss of life, of economic loss, and examples of these are ambulatory health care, and industrial. Finally, a low-risk occupancy has a history of low fire frequency and a minimal potential loss of life or economic loss such as storage, business and mercantile. (NFPA 1600).

There are multiple ways that the department could have a risk assessment completed. The Ohio Fire Chiefs have professional consulting services, the Center of Public Safety Excellence along with other consulting agencies are available at cost.

Currently the VWFD has purchased Emergency Reporting software to assist in this risk evaluation. The software purchased included VISION Risk Assessment software. The software is a dynamic tool that allows departments to analyze and categorize risks present in their community, compare data to other departments nationwide, and generate the Occupancy Vulnerability Assessment Profile (OVAP) score for all occupancies within their response area, and it supports the CPSE accreditation process. This software was at a minimal cost of $990.00.

Furthermore, the FPO scope of services can consist of many duties. The duties along with their required time requirements are combined to determine the total hours required. In our community, all the requirements, currently, are shared among our fire chief and the three lieutenants which include code enforcement, plan examination, and public education. NFPA 1600 further defines the needs to analyze the time needed to review a plan, time completing a field inspection, travel time, field test, documentation, and follow-up inspections all need considered for field inspections.

Plan reviews are another aspect of our fire inspection bureau. Although normally done at the beginning of a new project, it is an aspect of the job and should be included in the time taken by the inspector to complete. As seen in Appendix 3, NFPA 1730, tables can be referenced to determine some approximated times according to the construction type.

Once the man hours are determined we should look at what is the cost for performing FPO purposes. Currently, the VWFD uses the lieutenants to perform our fire inspections. The wage range for a lieutenant is currently $17.949 to $18.874 per hour. (City of Van Wert and

IAFF Local #681 Collective Bargaining Agreement 2017) Additional cost for the position are fire pension is 24 percent of wages, Medicare is 1.45 percent of wages, Workers compensation is 2.0156 percent of wages and hospitalization is a range of $7162.56 for an individual to $22,033.72 for a family plan, clothing is $775.00 annually and longevity can range from $50-1250 annually. If we take the high range for all items, the hourly wage cost for lieutenant performing inspection is the total of ($94,855.04) divided by 2912 is $32.57 per hour. (City of Van Wert, 2017). If we add in the cost of the use of a vehicle, software and any miscellaneous items. Vehicle cost $32406.00 (amortized over 15 years at 75% usage for fire inspections) divided by 120 inspections annually (17-year average) equals $13.50, Emergency Reporting (ER) software with Vision annual cost is $4458 divided by 16 modules in ER equals $278.63 annually for cost of the inspection module, and miscellaneous cost (fuel-1 gallon per inspection ($2.50x120=$300.00), office supplies-$50, equipment-$100, schooling-$500 and etc.-$50.) of $1000.00 comes to a total of $1292.13 annually. This would be added to the annual total base pay of ($94,855.04+$1292.13) divided by 2912 for a $33.02 per hour to do an inspection. (City of Van Wert, 2017)

Fees for inspection services provided by the VWFD pursuant to the Ohio Fire Code Section FM 103.2 are as follows: new construction $195.00, re-inspect new constructions $45.00, first follow up, $95.00, second follow up, $145.00, third follow up, $195.00, fourth follow up, $295.00 and subsequent follow up inspection fees increase by $50.00 increments. Existing construction, $95.00, re-inspection fee, $45.00, Child daycare/foster homes inspection fee of $20.00. (“American legal publishing - online library,” n.d.)

Since we currently charge $95 for an annual inspection and an annual inspection would take the VWFD (to complete in) an average of 1.6 hours to complete and multiply that by $33.02

(the average cost per hour for a lieutenant/inspector), the total fees would be $52.83. From conversation with our past fire chief, these amounts were set just slightly lower than what the State of Ohio would charge for doing the inspection. Studying what other departments have established as fees for fire safety inspections also determine if the fee schedule we have in place is appropriate (J. Steele, personal communication, December 1, 2016).

The State Fire Marshal has placed a standard fee schedule in the Ohio Fire Code to assist departments with recovering fees associated with these services also. "The fire marshal shall require fire safety inspection fees for all other inspections as follows (a) inspection fee of one hundred dollars, (b) re-inspection fee of fifty dollars, (c) subsequent reinspection fees of fifty dollars per re-inspection, and for new construction, (a) initial inspection fee of two hundred dollars, (b) re-inspection fee of fifty dollars, (c) first follow-up inspection fee of one hundred dollars, (d) second follow-up inspection fee of one hundred-fifty dollars, (e) third follow-up inspection fee of two hundred dollars, (f) fourth follow-up inspection fee of three hundred dollars, (g) subsequent follow-up inspection fees are increased in fifty dollar increments. (Ohio Fire Code, 2016)

Fire prevention bureaus in the fire service are unique to the department in which they operate. In our department, the duties currently are shared among the three lieutenants and the fire chief. Other departments may have a dedicated fire prevention bureau with a single fire inspector or even multiple fire inspectors. Additionally, some departments may complete their inspections with their fire companies, in between emergency responses, and some departments do not even perform fire inspections. Ultimately, the number of organization personnel in the fire prevention bureau or how it operates within the department is a function of both the size of the

community served and the number of specific duties required and determined by the fire chief according to the Fire Chiefs Handbook. (Barr & Eversole, 2003, p. 1042)

However, most fire departments have to form a bureau or designate employees to additional duties in fire prevention which can encompass all fire inspections, plan review, financial responsibilities, fire and life safety duties, and possible fire investigation.

Currently, at our department our fire chief performs new construction plan review, final alarm inspections, and any other necessary fire safety items. The three lieutenants are assigned to the annual inspections along with each having a specific fire inspection duty which are planning, public education and billing.

In the past, most departments had considered fire prevention activities to be a secondary role in the fire service with fire suppression being the main concern. However, Fire Chief Peterson of Plano, Texas observes, "Over the last twenty years, the fire inspector's job has evolved from that of a hard-nosed code enforcer to a highly skilled professional well versed in all aspects of fire prevention. The days of placing someone as fire inspector into a fire prevention bureau to bide his time until retirement are long gone". (Scott, 1997 p84)

Staffing options for prevention activities stem from two basic resources: paid personnel and volunteers. Many departments use emergency response personnel to conduct their fire code inspections, commonly called a company inspection. Some drawbacks to using company inspections are personnel do not think they were hired for this duty, and they may feel uncomfortable, lack training to perform the duty and lack of motivation towards prevention. (Crawford, 2011 p241)

When having fire companies perform inspections another consideration to take into account is the professional reputation of an agency. It is important to have the personnel properly

trained or the reputation of one's department could be severely damaged during this period. (Smeby, Charles L. Jr., 2014 p109)

Additionally, the time needed to acquire a CFSI certification in Ohio is 80 initially with twenty-four hours of continuing education over three years. (Ohio EMS, 2018)

Another option would be the new State of Ohio "Hazard Recognition Officer". The requirements for this is forty hours initially with 6 hours continuing education over three years. The Hazard Recognition Officer certification provides certificate holders with the knowledge, skills, and abilities necessary to conduct fire and life safety inspections in Ohio. Participants gain an understanding of the fire inspector's role in code enforcement, general fire prevention practices, fire safety requirements related to HAZ MAT, electrical systems and fire protection systems, as well as learning the skills necessary to properly conduct fire safety inspections. The personnel can complete inspections but would need a CFSI to write any violations, if needed. (Public Safety Ohio, 2018).

Some departments are now developing self-pre-inspection programs, in which a business performs a self-check from documents given to them by the fire department. This is normally done by departments lacking personnel or resources to perform an inspection on a regular basis. (Crawford, 2011 p242).

Technology can also increase productivity according to Layman (2005). The author further points out that mobile inspection software would eliminate the need for handwritten documents and the transfer of information into a database, thereby reducing the man hours devoted to inspection documentation and data entry. Such technology would also provide better customer service to the public. (Layman, 2005)

From 1975 to 2008 the VWFD did have a forty hour a week fire prevention officer assigned to all fire prevention duties. This was a benefit to our department in the fact we did not have to take a lieutenant from other duties to perform fire safety activities. Furthermore, having a dedicated fire inspector gives a more consistent person to whom the public can relate to. Also, according to *Management in the Fire Service*, regarding loss reduction as part of fire prevention function makes the case for devoting adequate resources for fire prevention activities even stronger. (Carter & Rausch 2008. p.63).

TriData, one of the nation's leading public safety consulting firms, has estimated that a full-time inspector can conduct at least four to six inspections on average per day using manual reporting systems, based on previous audits of various fire departments. This is an average of between 800 to 1,000 inspections per year. (National Fire Protection Association and Fire Protection Research Foundation). This number represents only doing fire inspections and no additional duties.

The literature review was a starting point in showing that the VWFD, while providing inspections, is not providing them at a reliable rate. The department will need to establish a more constant interval of providing inspections and at what cost. The variety of staffing options, and ways to accomplish inspections, could be endless. As a department we need to determine what may work for one comparable jurisdiction, may not work at all for the VWFD. If resources are restricted, the type and scope of the prevention conducted in that community may also be limited. The literature review was a starting point on the options available and the need for inspections within a community.

PROCEDURES

The procedures used to determine the needs of providing annual inspections for the Van Wert Fire Department (VWFD) on a consistent and fair inspection rotation began at the start of the Ohio Fire Executive program in 2016. The first week of the Ohio Fire Executive class began the process of recognizing a problem within the VWFD. The author began gathering information from multiple resources. Internet searches were initially performed gathering information from the National Fire Academy Executive Fire Officer and the Ohio Fire Chiefs Ohio Fire Executive archives on research papers related to fire inspections, fire inspectors or fire prevention officers. The author gained insight from the research paper archives to further research the internet for additional resources. The author then researched the VWFD archives and databases within its department for past history in the fire prevention bureau for inspections completed annually, the fees for the inspections, and the number of commercial occupancies within the VWFD fire district. The VWFD annual fire reports were also referenced for information. The author then interviewed the current fire inspectors including the fire chief and the three lieutenants in 2016 on the procedures used for perform fire safety inspections.

Research was largely based on literature review from the immense amount of literature found on the importance of providing fire inspections. The literature review began with the VWFD library of book references. From there the Van Wert County Library was used to gather more references. The National Emergency Training Center's (NETC) library was referenced for literature and collected through The Ohio Northern University library.

The author referenced the National Fire Protection Association 1730 standards to determine how our department compares to their standard in performing inspections.

Research was further conducted by using a survey that was sent to 193 fire departments that were full-time, part-time, or a combination of both in the state of Ohio (appendix 6). No volunteer departments were contacted. The fire departments ranged for populations of less than 5000 to greater than 25,000. The author elected to use a diverse population base for the research to gather information from different department size and population in their fire safety prevention programs. The letter was sent on August 14, 2017 to the fire departments directing the questionnaire to a person involved in their fire safety prevention office or the person authorized to do their inspections and asking that person to complete a short online survey at www.surveymonkey.com (Appendix 5). The external survey was placed online on August 14, 2017 through September 15, 2017. The introductory section of the survey was intended to create a demographic picture of the 193 fire departments. Eighty-three surveys (45%) were completed. Eight were returned from the post office with no forwarding address for a total of 184 being delivered. The survey asked how fire departments performed fire safety inspections, with whom they used for the fire safety inspections, how many fire safety inspections they completed yearly and any fees associated with performing the inspections. This information was used to compare VWFD with the aforementioned departments to identify areas where improvements are needed in the VWFD. See Appendix 5,6,7.

A data collection was performed internally to the VWFD was developed and information was gather over a sixteen-month period with the fire inspectors. The data collection was a computation of the total hours spent on performing fire inspections. The data collection gathered was on the time spent on preparatory work, prior to the inspection, actual inspection, post inspection research, and follow-up inspections. This data was for all commercial inspections done by our department over an eight-month period. See Appendix 2.

Several follow-up interviews were conducted after the survey results were attained. The author thought it was important to speak with several departments to clarify answers given on the survey. Results were then collected from the survey, along with the follow-up questions and placed into the results.

Definition of Terms

Building Codes. "Spell out required building features for fire safety" (Management in the Fire Service 4th Edition, 2008, page 87).

Code. "A standard that contains extensive provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards (Management in the Fire Service 4th Edition, 2008 page 87).

Code Enforcement. "Pertains to inspections, violation identification, and penalties" (Management in the Fire Service 4th Edition, 2008 page 87).

Fire Hazards. "Are conditions conductive to fires" (Management in the Fire Service 4th Edition, 2008 page 87).

Fire Inspection. "An on-site search for code violations and other potential fire hazards" (Management in the Fire Service 4th Edition, 2008 page 87).

Fire Marshall. "An official who has responsibilities that include code enforcement, fire service training, operation of fire reporting systems, and fire investigations, as well as support of local fire departments" (Management in the Fire Service 4th Edition, 2008 page 87).

Fire Prevention Activities. "Include inspection, code enforcement, and fire education" (Management in the Fire Service 4th Edition, 2008 page 87).

Inspector. "Person who is trained and certified to perform fire and life safety inspections of all types of new construction and existing occupancies; also called Code Enforcement Officer

and Fire and Life Safety Inspector" (Fire Inspection and Code Enforcement, 2009).

Loss Reduction. "concerns those efforts that are designed to reduce the cost of fires in terms of property damage and human casualties (deaths and injuries)" (Management in the Fire Service 4th Edition, 2008 page 87).

National Fire Protection Association (NFPA). "is a private membership organization intended to promote the science and improve the methods of fire protection and prevention, to obtain and circulate information on these subjects, and to secure the cooperation of its members in establishing proper safeguards against loss of life and property by fire; it is also one of the groups developing model national codes on which local building codes and regulations are based. (Management in the Fire Service 4th Edition, 2008 page 87).

Regulation. "Local requirement that can be enforced" (Management in the Fire Service 4th Edition, 2008 page 87).

Standard. "A document containing mandatory provisions, using the word 'shall' to indicate requirements, for adoption into law" (Management in the Fire Service 4th Edition, 2008 page 87).

Limitations of the Study

Limitations were found in this study. The survey was mailed to 193 fire departments that were full time, part-time, or a combination of both in the state of Ohio. The departments ranged for populations of less than 5000 to 25,000. After reviewing the results, the author should have gathered information from volunteer departments in the same population demographics. On review of question 11, "does your department complete annual inspection in all of them" the question should have been followed to gather specific outlines of how departments that did not complete an annual inspection on how they determine their inspection rotation of occupancies.

RESULTS

The descriptive research process brought the author to the conclusion that the Van Wert Fire Department can improve the safety of our community and firefighters by improving our fire safety inspections. The research gave an awareness to the following four research questions.

1. Why is there a need to do annual fire inspections?
2. How many man hours on average are needed to complete a fire inspection?
3. What is the cost to perform fire inspections?
4. How do other departments complete their fire inspections?

The VWFD, as stated early in the research, already provides fire safety inspections and has a program in place presently, and the department is not delinquent in providing inspections to the community.

Research was further conducted by using a survey that was sent to 193 fire departments that were full-time, part-time, or a combination of both in the State of Ohio (appendix 3). The fire departments ranged for populations of less than 5,000 to greater than 25,000. The author elected to use a diverse population base for the research from larger and smaller departments to see those results from different populations in reference to how they performed fire prevention programs.

Of the 83 departments surveyed, 66% were full-time fire departments, and 34% were a combination or part-time fire departments. The highest majority of responses came from northeast Ohio at 41%, northwest at 19%, southwest at 17%, central at 16%, and the least from the southeast at 7%.

Department size was fairly similar with the exception of departments of 51 personnel or more being 36% of the responses. Departments comparable to the size of the VWFD (21-30 employees) were the second highest at 22%, followed by the 31-40 at 18%, 41-50 at 16% and 11-20 at 7%, with no responses from any department with 10 or less.

The last demographic question asked was the population the department served. The number of departments serving 25001 or greater were 39, 15001-25000 were 22 departments, 10001-15000 were 13 departments, 5001-10000 were seven departments and only one department serving 5000 or less.

The VWFD currently provides inspection services as divided among the fire chief, lieutenants and firefighters. The VWFD currently uses the State Fire Marshalls(SFM) inspections department to complete the annual fire inspections in the hotels, hospitals, and nursing homes in which they are requires by ORC to complete. The SFM is also reference on fire safety inspection matters that are out of the ordinary when the VWFD provides safety inspections.

Research Question 1- Why is there a need to do annual fire inspections? Chapter 3781 of the Ohio Revised coded directly addresses the need of fire inspections. "The fire code official is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code." (Ohio Administrative code 1201:7-7-01 Section 104.1.1). The ORC further defines the need by stating "required by a municipal fire department, by law." (Ohio 16 Revised Code, 2009).

The ORC does require annual inspections in nursing homes, hospitals and hotels, which fall under the State Fire Marshal's Office responsibility. "The state fire marshal or the fire chief or fire prevention officer of the municipal corporation or township in which the center is located has inspected the center annually within the preceding license period and has found the center to be in compliance with rules promulgated by the fire marshal pursuant to section 3737.83 of the Revised Code regarding fire prevention and fire safety in a child day-care center." (Ohio Revised Code, 2010). Hotels fall under the rule 3731.02 of the ORC "The state fire marshal shall inspect, prior to issuance or renewal of a license and at any other time necessary, every hotel and SRO facility which comes within sections 3731.01 to 3731.21 of the Revised Code." (Ohio Revised Code, 2008)

Fire Departments are given the authority to complete fire inspections by the ORC, but not at a specific interval, outside of the hospitals, hotels, nursing homes and schools, which are required annually. However, the 1978 NFPA/UI study team recommended that departments make it a policy to annually inspect all or nearly all public buildings, as fire rates are lower when inspection rates were higher. (Hall)

Furthermore, NFPA 1730 does give a recommended inspection frequency by its risk classification. The NFPA recommended, no less than, triennially with the lowest risk classification, biennially for moderate risk, and annually for high risk. (NFPA 1730)

The survey did show the importance to fire departments in doing fire inspections, showing a priority of providing inspections with other departments, with 81 of 82 replying they providing fire inspections. Only one department answered no, they do not perform inspections. The author also found the next question surprising in that 88% of the fire departments surveyed have a dedicated fire inspector and 12% do not.

When asked if departments complete an annual inspection in all of their commercial occupancies, only 32% complete that task annually. Additionally, 50% answered “no”, and the following 18% had a wide assortment of answers. Many did answer, not unlike the VWFD, that they are working towards the goal of completing all of them annually.

Respectively, 38% of the departments complete 50-74% of their inspections annually, 25% complete 25-49%, 21% complete 75-99%, and 9% complete 1-24% annually.

The research made clear in the fact that fire departments that have a good fire safety inspection program have fewer loses and increased life safety. The United States is at the lower percentage of countries making fire safety inspections a priority over fire suppression.

Research question 2- How many man hours on average are needed to complete a fire inspection? This question was surveyed by an external survey and a data collection completed internally with the VWFD. The data collection was collected by the current three inspectors at the VWFD, and they were asked to track their hours in four categories which were, prep work prior to doing the inspection, time at the occupancy doing the inspection, research for the inspection on return to the station; and time spent on follow-up inspections for the same occupancy. On the 78 commercial occupancies, inspected for the research, the average time came to be 1.4 hours per commercial occupancy. This is an accumulation of an average of 0.14 hours for prep work, 0.75 hours for the actual inspection, 0.35 hours for the post inspection research, and 0.17 hours for follow-up inspections.

The external survey found that the time it takes a department to perform an inspection, including, all time allotted for preparation to inspect, actual inspection, inspection documentation, and follow-up inspections, the highest percentage at 45% found it took less than

one hour. Forty percent completed this in two hours, 11% took three hours, and 5% took four hours. No respondents answered five hours or more.

The results from the external survey shown of the 83 departments that responded, that 85 percent of the departments completed their inspections in the two hours or less. The average from the external survey was 1.76 hours. The internal data and external survey came to an average of 1.6 hours overall.

Research question 3-What is the cost of performing an inspection? This was determined by totally the cost of the lieutenant inspectors completing a total of 120 average inspections yearly (2000-2016) by totaling the wages, equipment (apparatus, software, fuel, schooling) and supplies. Vehicle cost $32406.00 (amortized over 15 years at 75% usage for fire inspections) divided by 120 inspections annually (17-year average) equals $13.50, Emergency Reporting (ER) software with Vision annual cost is $4458 divided by 16 modules in ER equals $278.63 annually for cost of the inspection module, and miscellaneous cost (fuel-1 gallon per inspection ($2.50x120=$300.00), office supplies-$50, equipment-$100, schooling-$500 and etc.-$50.) of $1000.00 comes to a total of $1292.13 annually. This would be added to the annual total base pay of ($94,855.04+$1292.13) divided by 2912 for a $33.02 per hour to do an inspection. (City of Van Wert, 2017) and dividing by their base hours of work for a cost of $33.02 per hour. The annual cost for a lieutenant/inspector with wages and benefits cost the city of Van Wert ranges between $72,757.59 to $94,855.04. This wide range is due to the different medical insurances plans. From the research gathered it was determined that the average time to accomplish an inspections was 1.6 hours multiplied by the cost of $33.02 per hour for a cost of $52.83 per inspection, on average for VWFD.

Research question 4-How do other departments complete their fire inspections? This is difficult to answer as each department has their own unique way of performing inspections. The data collected from the survey did not show a correspondence of completing more inspections with a full time FPO. Of the seventy-five departments having a dedicated FPO only twenty-three (31%) completed an annual inspection in all their commercial occupancies. Eleven of the seventy-three fire departments completed inspections in 75-99%, nineteen completed 50-74%, ten completed 25-49%, six completed 1-24%, and twenty-nine gave no response.

The question of how many dedicated inspectors a department produced an array of answers. The uppermost answer was 26 departments had one inspector, 19 departments had two, ten departments had three, one department had four, seven had five or more and eleven departments answered with varied responses. Some of those answers were "all personnel hold a CFSI", a few used line officers, part-time personnel, and other responses. (appendix #6)

Fifty percent of the departments that did not have a dedicated fire inspector use their fire companies to perform their inspections. The remaining 50% use a wide assortment of other options in performing inspections. Eighty-three respondents answered the next question pertaining to how many commercial inspections does your department have in its jurisdiction, with the highest mirroring the VWFD at 27 answering 500-1000. The next highest was 17 with 101-500 occupancies, followed by 15 in the 1001-1500, and the remainder was 1 with 1-499 in the other categories.

The literature and research shows that a fulltime inspector is the preferred method to complete inspections with 50% of departments using this method. Another option, are company inspections to complete inspections of occupancies. With Ohio's newly formed "Hazard Recognition Officer (HRO)" this gives the opportunity to have qualified personnel performing

the initial inspection under the guidance of a Certified Fire Safety Inspector. This would provide a larger number of personnel to complete inspections within the jurisdiction for a department that is unable to fulfil the full time inspectors position.

The next survey question asked the fees associated with and inspection. The author was surprised that only six (7%) of the charge for fire inspections and seventy-four (89%) do not charge for fire inspections. Three (4%) departments specified that there were other charges assessed by their departments.

Twenty-three departments answered that their fee for an initial inspection was $0, the remainder seven departments all had different amounts $75-250, $30, $100, $50, $250-75, $40 and one answer of "varies".

Interestingly, more departments appear to charge for re-inspections than the initial inspection. Twenty-one departments answered $0 while there was a wide range of responses from the twelve other respondents.

The last question, does your department have any additional fees, such as EMS billing, false alarms, permits, or any other miscellaneous fees? The majority of the answers were 25 departments charge for EMS runs. There were various answers of fees for false alarms, permits, hazmat, and hydrants.

Lastly, www.surveymonkey.com was given to 174 fire departments with 83 (45%) replying to the survey.

DISCUSSION

The Van Wert Fire Department will have to make significant changes to better its fire prevention activities. Presently, our prevention office is inconsistent and a lesser priority within

our daily duties. With electronic tracking we have been able to determine the frequency and consistency since the year 2000. Fire prevention activities prior to that time (1975-2000) were done on paper and the author was unable to determine the effectiveness of the FPO. History did show that during the period of 2000 to 2009 the number of annual fire inspections were higher with the position of a forty hour a week fire inspector. Although the number was higher it was not significantly higher. Furthermore, in actuality the number of all types of inspections has increased in the last five years. (see appendix 8).

The literature review did show that the United States is one of the worse countries in the world to have the most fire losses. To further complicate this, local governments and the media do not recognize the seriousness of how this fire problem effects individuals, families, and their communities. (United States Fire Administration, 2016).

The VWFD is required as a municipal corporation that has a fire department, or the fire chief of a township that has a fire department shall enforce the provisions of this chapter and chapter 3791 of the Revised Code that relate to fire prevention" (Ohio 16 Revised Code, 2009). This clearly defines the responsibility that as a fire department we have to provide fire prevention to our community. Although, it does not clearly define the need of annual inspections except for a specific group; nursing homes, hotels, hospitals and schools, all with have a high life hazard.

The results of this study discovered that most model fire codes do not set a standard for the frequency of fire inspections and that local fire departments set their own determination of the regularity. NFPA 1730 (see appendix 1) does offer a minimum inspection frequency determined by the risk classification of each occupancy. Furthermore, the 1987 NFPA/UI study recommends that fire rates are lower when departments make it a policy to do annual inspections

in all or nearly all public buildings (Hall). It was determined from the survey that the majority of the departments are, or at least are attempting, to do an annual inspection in all their occupancies.

Currently, the VWFD has no specific configuration of completing its inspections. A method needs established to rank occupancies by a risk hazard to determine a method in completing the inspections a fixed rotation by using NFPA 1730.

The research has shown that an average inspection takes 1.6 hours to complete. This average is for all size occupancies and any pre inspection research or re-inspection time. To complete and annual inspection in all 514 occupancies would require 1.4 inspections daily Sunday through Saturday. This number increases to 2 inspections a day, if inspections were to be completed Monday-Friday, which would be a more realistic. This would require 3.2 hours daily to complete all 514 occupancies. This number is unrealistic at our current duties with our manning.

Additionally, many departments can use the FPO also as a fire investigator, training officer or other needed functions. With our department having 514 occupancies, a potential full time fire prevention officer referencing the TriData information, would make four to six inspections a day plausible. Furthermore, they could complete all inspections in approximately six months. This would also give an opportunity to have the individuals cross trained to be used for other duties if needed.

If we were to classify our occupancies in a high, moderate and low hazard we then could determine the probability of completing and inspection in all 514 occupancies over a three-year period, following the NFPA 1730 guidelines. The department would first need to complete this hazard rating and then recalculate the needs for a three-year rotation. If estimating that 80% (137 annually) were low, 15% (38 annually) moderate and 5% (26 annually) high hazards then this

would be approximately 200 inspections yearly. If this number held true, this would require less than one inspection (0.77 actual) daily. This number only represents the initial annual inspection.

The VWFD needs to make inspections a higher priority to make this goal a reality. The department is currently constructing a priority list for daily activities, and have placed inspections in a high priority.

The survey did support that fire prevention activities are important to individual departments, at different levels of importance. It was determined to be of high importance in the eighty-two departments answering the question, "Does your department perform fire inspections?"; eighty-one departments of the eighty-two said yes. Of the eighty-two departments that said yes thirty-two of those departments complete an annual inspection in all their commercial occupancies. Furthermore, of the departments that did not complete at the 100% inspection rate, another thirty-one fire departments complete 50%-99% of their commercial occupancies annually. From this data the author can conclude that fire inspections are important to today's fire departments. This is supported by Barr and Eversole (2003); fire prevention is considered the most important non-fire suppression activity a fire department can be involved in.

The external survey closely matches the internal data collection completed in the Van Wert Fire Department (see appendix 2) in the hours needed to complete a fire inspection. The internal average over the inspections of seventy-eight occupancies found an average of 1.4 hours to complete all inspection activities for that occupancy. The external survey revealed that of eighty-three respondents that thirty-seven or 45% of the departments completed a complete fire inspection in one hour or less. Forty percent found it took 1-2 hours, and 16% averaged 3-4 hours with an all overall average of 1.75 hours to provide a complete fire inspection. This provides an average from both sources of 1.6 hours to complete an inspection.

This number closely mimics the results from TriData that shown a full-time inspector can complete 6-8 inspections daily by taking from 1.3 to 2 hours per inspection. (National Fire Protection Association and Fire Protection Research Foundation).

It was surprising that that only six (7%) of the eighty-three fire departments surveyed charged for their initial annual inspection. Seventy-four (89%) departments did answer that they do not charge for an initial inspection but eight (10%) did elaborate that they do charge for different aspects of inspections.

The State of Ohio Fire Marshall does have a fee schedule established per the Ohio Fire Code for inspections. The fees are as follows (a) inspection fee of one hundred dollars, (b) re-inspection fee of fifty dollars, (c) subsequent reinspection fees of fifty dollars per re-inspection", and for new construction, (a) initial inspection fee of two hundred dollars, (b) re-inspection fee of fifty dollars, (c) first follow-up inspection fee of one hundred dollars, (d) second follow-up inspection fee of one hundred-fifty dollars, (e) third follow-up inspection fee of two hundred dollars, (f) fourth follow-up inspection fee of three hundred dollars, (g) subsequent follow-up inspection fees are increased in fifty-dollar increments. (Ohio Fire Code, 2016)

From this inspection fee schedule the VWFD in 2002 adopted per local ordinance the following fees: New construction $195.00, Re-inspect new constructions $45.00, first follow up, $95.00, second follow up, $145.00, third follow up, $195.00, fourth follow up, $295.00, and subsequent follow up inspection fees increased in $50.00 increments. Existing construction, $95.00, re-inspection fee, $45.00, Child daycare/foster homes inspection fee of $20.00("American legal publishing - online library," n.d.).

The fire department needs to look at readjusting their fee schedule. The current fee schedule is now sixteen years old and has never been increased during those sixteen years. A

simple increase of 21% to the VWFD fee schedule would give an average of 1.3125% annually for the past 16 years. This 21% increase reflects the wages increases for lieutenants over 16 years. (Clems and Nelson 2001-2017) This is far below the average annual inflation rate of 33.76 % (2.11% annually) for those same 16 years. (SmartAsset, 2018)

Barr and Eversole (2003) said fire prevention bureaus in the fire service are unique to the department they operate in. This was represented in the authors survey. From the survey the author found that 88% of the departments have a dedicated fire prevention officer. Additionally, of the 88% of the departments having a dedicated FPO, 35% of those had only one FPO and 50% had two or more FPO. Many fire departments use emergency response personnel to conduct their fire code inspections (Crawford, 2011). Of the departments not having a dedicated fire inspector 50% of those departments used fire companies to perform their inspections with another 50% using a multitude of diverse to each department. Additionally, another option could be the use of a hazard recognition officer. This new position, in Ohio, is less initial schooling and far less hours of continuing education. This would be a cost effective way to do company inspections without having all personnel at the CFSI level.

The research clearly shows a need for annual inspections and the importance thereof. This is a need that we cannot meet currently. The difficulty lies within how the VWFD will complete those inspections, and at what set constituency. Currently, the department is doing inspections, and the time taken to do an inspection is consistent with the literature review and the results from the survey. The research reveals that the department needs to establish an effective matrix to complete all occupancy inspections on some kind of predetermined schedule. NFPA 1730 addresses this by the risk associated with the occupancy. Currently we are experiencing a

difficulty to even having all occupancies seen in a ten-year window. While the department has adapted to the loss of a full time FPO in recent years, a better solution is required.

According to Layman (2005), technology can increase inspection productivity. Emergency Reporting software currently used by the VWFD has been updated recently to a software that provides a more efficient way to document property information, schedule inspections, send electronically captured pictures, track actual time completed on all aspects of an inspection, and signatures electronically. Of course, the information gathered is only as good as the information inputted. Layman (2005) further points out that mobile inspection software would eliminate the need for handwritten documents and transfer the information into a database, thereby reducing the man hours needed to inspections. Previously the inspectors would document on paper and return to the station to enter into the database.

RECOMMENDATIONS

Based on this research, it is recommended that the VWFD continue its fire prevention services. Research has shown that the need for fire inspections is an undisputed need for the community and it is required by a municipal fire department, by law. (Ohio 16 Revised Code, 2009).

First and foremost, the department needs to place a high importance on fire inspections. A department priority list needs established outlining task by importance on a daily basis.

To accomplished this in a consistent and fair manner the department first needs to first determine the risk associated with each occupancy within the community occupancies. The department must adapt the requirements from the NFPA 1730 minimum inspection frequency recommendations. This would place each occupancy into a specific minimum frequency of

inspection. To do this, a risk analysis needs completed on all commercial occupancies. The VWFD does have available the VISION software to accomplish this. The occupancies can be placed into this risk schedule through the departments Emergency Reporting software with its VISION™ classification software. This can be accomplished by assigning occupancies to each shift, and could be accomplished with in one year. The five hundred and fourteen occupancies would be assigned to the departments 18 personnel, making each person responsible to do 30 occupancies in the year. The Vision software is surprising simple to accomplish this task. Once completed, this information will determine where each occupancy would fall into the NFPA 1730 guidelines to establish a rotation of annually, biannually or triennially.

The VWFD needs to continue the fees for the fire inspections. With the State of Ohio and local government funds reductions, the city needs to find new resources for income and to continue its current practices. Additionally, the continued losses of other incomes (such as the inheritance tax being eliminated and property taxes phase out from the State of Ohio) further substantiates the need to be creative in looking for additional resources. The current inspection fees for the VWFD are fair and consistent with the State of Ohio Fire Marshalls office (SFMO), although the VWFD has not increased its fee schedule since its implementation in 2002. An immediate increase of 21% should be imposed on all inspection fees. This reflects the wage increase for lieutenants since 2002. This represents a 1.3125% increase annually since 2002 making an increase to $114.95, rounded to $115.00. Secondly, the city needs to reevaluate the fee schedule on a 3-year schedule to mirror the schedule of the collective bargaining agreement. At that time fees can be increased to reflect the increase in wages in relationship to the lieutenant's wages.

From the research, the author found that an average fire inspection takes approximately 1.6 hours to perform. This places the cost to perform a fire inspection, at the current rate of a lieutenant/ paramedic rate ($18.874), at $28.31 by the hourly wages. With wages and benefits that cost rises to an hourly rate of $33.02. The average inspection of 1.6 hours' multiplied by the $33.02 computes to a cost of $52.83 per inspection. The current initial $95 annual inspection fee covers this cost and provides an additional income for the city of $42.17 per inspection, after expenses. If increased to $115.00 this would make a profit of $62.17, a $20.00 increase. If all 514 occupancies could be inspected annually this would provide additional income to the city in the amount of $21,598.28 annually. If an 21% increased would be put into ordinance that would increase to $31831.04, annually.

Finally, the research has shown that for a fire prevention office to be successful the position needs to be filled with a full time dedicated inspector. Lieutenants from each shift, fire companies or individuals from shift can be used, but in the end all of those people have their own personalities and from that stems inconsistency. With a dedicated full time inspector, the VWFD can provide the uniformity needed in the FPO. With research showing an average of 1.6 hours per inspection, a full time inspector working 2080 hours a year's minus the VWFD maximum paid time off of 320 hours would leave 1760 hours for inspections. With 514 occupancies at 1.6 hours average inspection time would give 822 hours to complete all 514 occupancies. Also, if the dedicated fire inspector were able to complete an annual fire inspection in all 514 occupancies this would provide an income of $48,830 annually from just the annual inspections. This would not include any other follow-up inspections or other types of inspections. This sum would assist in the cost of a fire inspectors position at lieutenant base pay of $72,757.59 to $94,855.04 annually, with all benefits. But, more importantly it would provide a) consistency in

code; b) consistency in amount of inspections performed; c) income; d) increased reduction in fire hazards. Regrettably, due to the financial difficulties the city faces, and the imposed hiring freeze, the possibility of a dedicated fire inspector is not feasible, at this time.

With the fire departments current manning and duties, we cannot complete inspections in all 514 occupancies annually. With no possibility currently of filling a full time inspectors position, the department will need to continuing using the three lieutenants and fire chief to perform inspections. Additionally, we must place all occupancies into a risk hazard to prioritize them according to the NFPA 1730 inspection rotation. By using this risk assessment guideline, we can divide the fire inspections, required by the occupancy's risk assessment, over a three-year rotation. To assist the lieutenants in this task the department can use company inspections to augment the current inspectors. This can be completed by line personnel that are currently CFSI certified and training new personnel as CFSI or HRO in the department. Currently all personnel, except three, are trained to CFSI. The department at this time has no HRO.

Furthermore, the VWFD will need to make fire inspections a priority in the department. The research shown an average of 1.6 hours per inspection and with 1.6 hours dedicated daily (Monday-Friday) to inspections the department can complete 261 inspections annually. Over three years this gives the possibility of completing 783 inspections. Once the department completes its risk analysis of its occupancies, a fixed rotation can be completed to determine the needed annual inspections on a triennial rotation per NFPA 1730. Once risk analysis is completed by year end 2017, the department will complete an inspection in all 514 occupancies by end of year 2020.

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APPENDIX 1 – NFPA 1730: MINIMUM INSPECTION FREQUENCY

Table 6.7 Minimum Inspection Frequency

OCCUPATIONAL RISK CLASSIFICATION	FREQUENCY
HIGH	Annually
MODERATE	Biennially
LOW	Triennially
CRITICAL INFRASTRUCTURE	Per AHJ

APPENDIX 2- DATA COLLECTION VAN WERT FIRE DEPARTMENT INSPECTION

Van Wert Fire Department Inspection Times				
Occupancy #	**Prep Work**	**At Occupancy**	**Post Insp. Research**	**Follow-up**
	hours	*hours*	*hours*	*hours*
1	0	2	1	0
2	0.25	2	0.5	0.5
3	0.25	0.5	0.25	0.25
4	0	1	0	0
5	0	1	0.75	0.75
6	0	0	0	0.5
7	0	2	1	0.5
8	0	2.5	0.5	
9	0	1.75	0.5	0.25
10	0	0	0	0.5
11	0	3.5	1	1
12	0	0.25	0.25	0
13	0.25	0.5	0.25	0
14	0	0.25	0	0
15	0	0.25	0	0
16	0	0.25	0	0
17	0.5	0	0	0
18	0	0	0	0.25
19	0.25	0.75	0.5	0.5
20	0	0.5	0.25	0
21	0	0.75	0.5	0.5
22	0.15	0.33	0	0.25
23	0.25	1	0.5	0.5
24	0.25	1.5	0.5	0
25	0.25	0.25	0.25	0
26	0.25	0.25	0.25	0
27	0	0.5	0	0
28	0	1	1	0
29	0	0.5	0	0.5
30	0	0.5	0	0.25
31	0	0.25	0	0.5
32	0	0.25	0	0.5
33	0.25	0	0	0
34	0.25	0.75	0.5	0
35	0.25	0.5	0.5	0

36	0.25	0.75	0.5	0
37	0.25	0.25	0	0
38	0.25	0	0	0
39	0.25	0	0	0
40	0	0.5	0.25	0.5
41	0.25	1.75	2	0.75
42	0	0	0	0.5
43	0	0	0	0.25
44	0	0	1	0
45	0	0.33	0	0
46	0.25	2	0.25	0
47	0.25	0.33	0.25	0
48	0	0.33	0.5	0
49	0	0.33	0.5	0
50	0	0.33	0.5	0
51	0	3	0.5	0
52	0	0.75	0.25	0
53	0.25	0.5	0.5	0
54	0.25	0.5	0.25	0
55	0.25	0.5	0.25	0
56	0.25	0.5	0.5	0.25
57	0.25	0.5	0.5	0.25
58	0.25	0.5	0.5	0.25
59	0	0.5	0.25	0
60	0.25	1	0	0
61	0	0.5	0	0
62	0.25	0.5	0.25	0.25
63	0.25	1	0.5	0.25
64	0.25	0.5	0.25	0
65	0.5	0	0	0
66	0.25	2	1	0
67	0.25	3	0.5	0
68	0	0.5	0.25	0.25
69	0	0.5	0.25	0
70	0	3	1	0
71	0	0.25	0	0
72	0.25	0.5	0	0
73	0.5	0.5	0.25	0.25
74	0	0.5	0.5	0.25
75	0	1	0.5	0.25
76	0.75	0.75	0	0

77	0.25	0.25	0.75	0.5	
78	0.25	0.5	1	0.5	
					Average Time Per Occupancy
Total Average	**0.14**	**0.75**	**0.35**	**0.17**	**1.40**

APPENDIX 3 – NFPA 1730 PLAN REVIEW TIMES

Table A.7.6.2(a) Plan Review Time

	Occupancy Group																	
	A	B	E	F	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	R-1	R-2	R-3	R-4	S	U
Area (ft^2)																			
1–10,000	1.00	0.50	1.00	0.75	1.50	1.50	1.00	0.75	0.75	1.50	1.50	1.50	0.75	0.75	0.75	0.75	0.50	0.75	0.50
10,000–25, 000	1.50	0.75	1.50	1.00	2.00	2.00	1.25	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	0.75	1.00	0.75
25,000–50, 000	2.00	1.00	2.00	1.25	2.50	2.50	1.50	1.25	1.25	2.50	2.50	2.50	1.25	1.25	1.25	1.25	1.00	1.25	1.00
50,000–75,000	2.50	1.25	2.50	1.50	3.00	3.00	1.75	1.50	1.50	3.00	3.00	3.00	1.50	1.50	1.50	1.50	1.25	1.50	1.25
75,000–100,000	3.00	1.50	3.00	1.75	3.50	3.50	2.00	1.75	1.75	3.50	3.50	3.50	1.75	1.75	1.75	1.75	1.50	1.75	1.50
100,000–250,000	3.50	1.75	3.50	2.00	4.00	4.00	2.25	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	1.75	2.00	1.75
250,000–500,000	4.00	2.00	4.00	2.25	4.50	4.50	2.50	2.25	2.25	4.50	4.50	4.50	2.25	2.25	2.25	2.25	2.00	2.25	2.00
500,000–750,000	4.50	2.25	4.50	2.50	5.00	5.00	2.75	2.50	2.50	5.00	5.00	5.00	2.50	2.50	2.50	2.50	2.25	2.50	5.25
750,000–1,000,000	5.00	2.50	5.00	2.75	5.50	5.50	3.00	2.75	2.75	5.50	5.50	5.50	2.75	2.75	2.75	2.75	2.50	2.75	2.50
Over 1,000,000	5.50	2.75	5.50	3.00	6.00	6.00	3.25	3.00	3.00	6.00	6.00	6.00	3.00	3.00	3.00	3.00	2.75	3.00	2.75

Table A.7.6.3(a) Plan Review Times for Fire Protection Sprinkler Systems

Area (ft^2)	All except H-1, H-2 & H-3	H-1	H-2	H-2
1–10,000	0.50	0.75	0.75	0.75
10,000–25,000	0.75	1.00	1.00	1.00
25,000–50,000	1.00	1.25	1.25	1.25
50,000–75,000	1.25	1.50	1.50	1.50
75,000–100,000	1.50	1.75	1.75	1.75
100,000–250,000	1.75	2.00	2.00	2.00
250,000–500,000	2.00	2.25	2.25	2.25
500,000–750,000	2.25	2.50	2.50	2.50
750,000–1,000,000	2.50	2.75	2.75	2.75
Over 1,000,000	2.75	3.00	3.00	3.00

Note: Time factors were developed from research of over 60 fire and building officials from across the United States using averages from their local data in plan review times.

Table A.7.6.2(b) Type Construction Factors

Calculation	1A	1B	2A	2B	3A	3B	4	5A
Multiply hour given in Table A.7.6.2(a) by factor	1.30	1.20	1.10	1.00	1.20	1.10	1.20	1.10

Note: See Table A.7.6.3(d) for occupancy classification comparison between model codes.

APPENDIX 4– OHIO FIRE EXECUTIVE INTRODUCTION LETTER

Greeting,

My name is Jon Jones and I am the Fire Chief of Van Wert Fire Department, and I am currently enrolled in the Ohio Fire Executive Program Class 16. I am conducting a survey to compile statistics for my OFE paper, and for our department information. Specifically, my research pertains to the necessity, cost and personnel needed to complete fire inspections within our district.

If you could please take a short moment to complete the survey, located at: https://www.surveymonkey.com/r/32SY7QP

This survey will run from today through September 1, 2017. Your input would be a great value to our department and the fire service in general.

Once compiled, if requested, we can forward an analysis of the results to you in order to assist you regarding your fire prevention activities. Please contact me if you desire a compilation of the results.

Thank you in advance for our attention to this matter, and your time.

Respectfully,

Chief Jon Jones

Van Wert Fire Department

jjones@vanwertfd.org

419-238-4918

If you have received this Email or letter in error, please disregard and accept my apologies. I will thank everyone in advance for his or her valuable time.

Chief Jon Jones Van Wert Fire Department

This survey investigates the ways departments are meeting or attempting to meet Fire Prevention Activities. I wish to thank you in advance for your valuable time.

APPENDIX 5– OHIO FIRE EXECUTIVE ON-LINE QUESTIONAIRE

SURVEY OF FIRE AGENCIES FIRE PREVENTION/CODE ENFORCEMENT INSPECTIONS

1.Name of Fire Department:

_____

Please check the appropriate answer/answers for each question.

2. What type of fire department do you work at?

    - ☐ Full-time only
    - ☐ Volunteer
    - ☐ Part-time personnel
    - ☐ Combination
    - ☐ Other: _____

3. What region of Ohio is your department located?

    - ☐ Northwest
    - ☐ Southwest
    - ☐ Central
    - ☐ Northeast
    - ☐ Southeast

4. How many personnel in your fire department?

    a. 1-10
    b. 11-20
    c. 21-30
    d. 31-40

e. 41-50

f. 51 or greater

5. What population does your department serve?

- 1-5000
- 5001-10000
- 10001-15000
- 15001-25000
- Greater than 25001

6. Does your department perform fire inspections?

a. Yes

b. No

7. Do you have a dedicated fire prevention officer?

a. Yes

b. No

8. If you answered yes to Question 6, how many dedicated inspectors do you have?

- 1
- 2
- 3
- 4
- 5 or more
- Other _____

9. If you do not have a dedicated fire inspector, who performs your inspections?
    a. Fire companies
    b. Civilian personnel
    c. Other: _____
10. How many commercial occupancies do you have in your jurisdiction that require inspections?
    a. _____
11. Does your department complete an annual inspection in all of them?
    a. Yes
    b. No
12. If you answered no to question 7, what percentage do you complete annually?
    - 75-99%
    - 50-74%
    - 25-49%
    - 1-24%
    - 0%
13. How long, on average, does it take for your department to perform a fire inspection? This would include all time allotted for i.e.; preparation to inspect, actual inspection, and inspection documentation, follow-up inspections.
    a. Less than one hour
    b. 2 hours
    c. 3 hours
    d. 4 hours

e. 5 hours or greater

14. Does your department charge for fire inspections? If you answer **no**, skip to question 16.

    a. Yes

    b. No

15. What is your departments fee for an initial inspection?

    a. _____

16. What is your departments fee for a re-inspection?

    a. _____

17. Does your department have any additional fees, such as EMS billing, false alarms, burn permits, or any other miscellaneous fees?

    a. Yes. Please

       Explain_____

       _____

    b. No

APPENDIX 6– SURVEY PARTICIPANTS

Ashland Fire Division

Athens Fire Department

Blue Ash Fire Department

Boardman Township Fire Department

Bowling Green Fire Division

Brooklyn Fire Department

Brunswick Division of Fire

Cambridge Fire Department

Canton City Fire Department

Celina Fire Department

Chillicothe Fire Department

Berea Fire Department

Forest Park Fire Department

Hamilton Fire Department

Kent Fire Department

Lorain Fire Department

Lyndhurst Fire Department

Marion Fire Department Fire Department

Mason Fire Department

Moraine Fire Department

Rocky River Fire Department

Springfield Fire Rescue Division

Troy Fire Department

University Heights Fire Department

Clearcreek Fire District

Cumberland Trail Fire District

Cuyahoga Falls Fire Department

Dayton, Ohio Fire Department

Defiance Fire

Delaware Fire Department

Delhi Township

Eastlake Fire Department

Elyria Fire Department

Euclid Fire Department

Evendale Fire Department

Findlay Fire Department

Fostoria Fire Department

Fremont Fire Department

Genoa Township Fire Department

Green Township Fire & EMS

Greenville Fire Department

Highland Heights Fire Department

Independence Fire Department

Ironton Fire Department

Jackson Township Fire Department

Kenton Fire Department

Liberty Twp.- Powell Fire Department

Liberty Twp. Fire Department

Madison Township Fire Department

Marion Township Fire Department

Marysville Fire Division

Mayfield Heights Fire Department

Mifflin Township Fire

Gahanna Fire Department

Mount Vernon Fire Department

Neffs Fire Department

North Olmsted Fire Department

North Royalton Fire Department

Norwalk Fire Department

Norwich Township Fire Department

Norwood Fire Department

Orange Township Fire Department

Painesville City Fire Department

Parma Heights Fire Department

Perrysburg Fire Department

Plain Township Fire Department

Shawnee Township Fire Department

Sidney Department of Fire & Emergency Services

Solon Fire Department

Solon Fire Department

South Euclid Fire Department

Springfield Township Fire Department

Steubenville Fire Department

Stow Fire Department

Strongsville Fire and Emergency Services

Sylvania Fire-EMS

Toledo Fire and Rescue Department

Twinsburg Fire Department

Violet Township Fire Department

Wapakoneta Fire & EMS

Washington Township Fire

Wickliffe Fire Department

Willoughby Fire Department

Wooster City Division of Fire

APPENDIX 7 – SURVEY RESULTS

Question 1: What fire department do you work for? See Appendix 5.

Question 2: What type of fire department do you work at? Fifty-four (66%) of the departments were full-time, 29 (34%) were combination and or/ part-time fire departments.

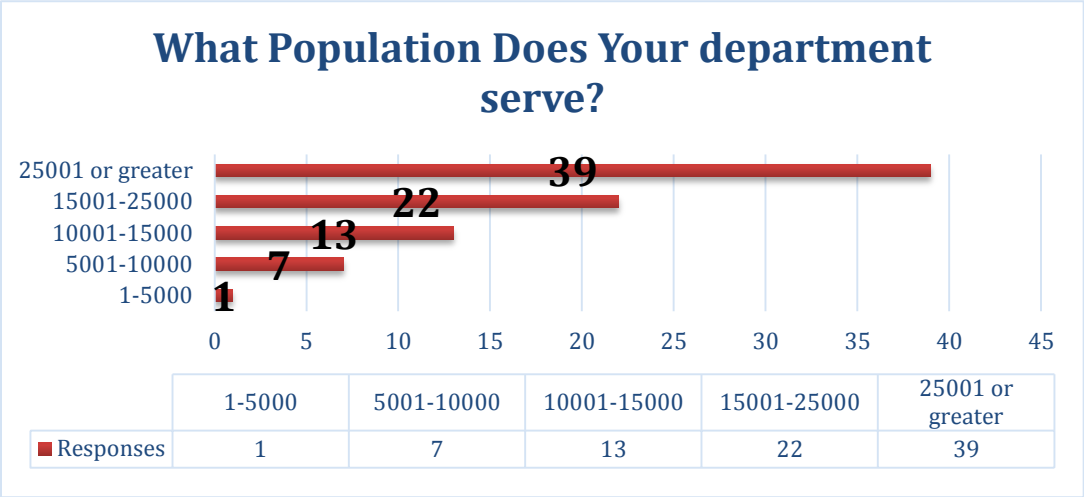
Question 3: What region of Ohio is your department located?

What region of Ohio is your department located?		
Answer Choices	Responses	
Northwest	19.28%	16
Northeast	40.96%	34
Central	15.66%	13
Southwest	16.87%	14
Southeast	7.23%	6
	Answered	**83**

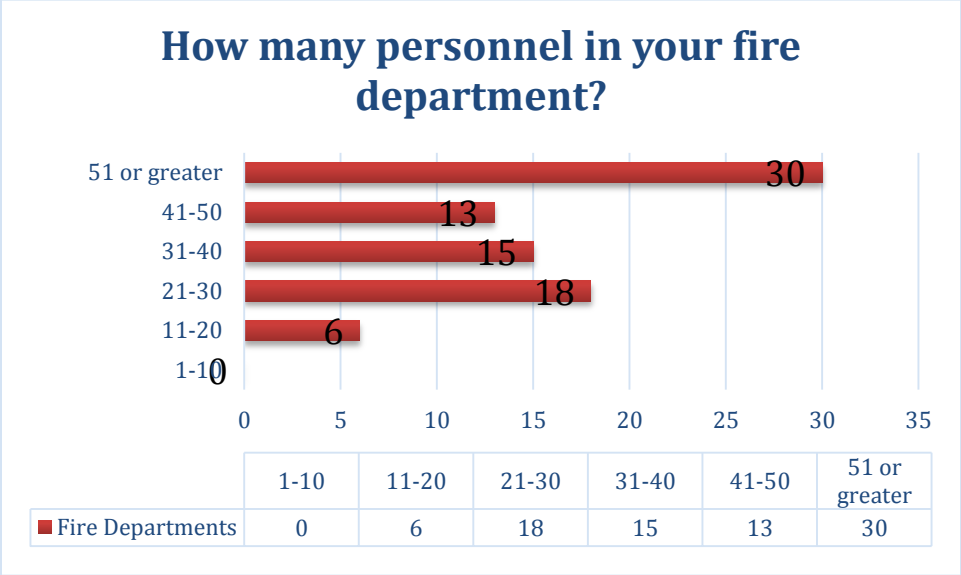
Question 4: How many personnel in your fire department?

Answer Choices	Responses	
1-10	0.00%	0
11-20	7.32%	6
21-30	21.95%	18
31-40	18.29%	15
41-50	15.85%	13
51 or greater	36.59%	30
	Answered	**82**

Question 5: What population does your department serve?



Question 5: How many personnel in your fire department?

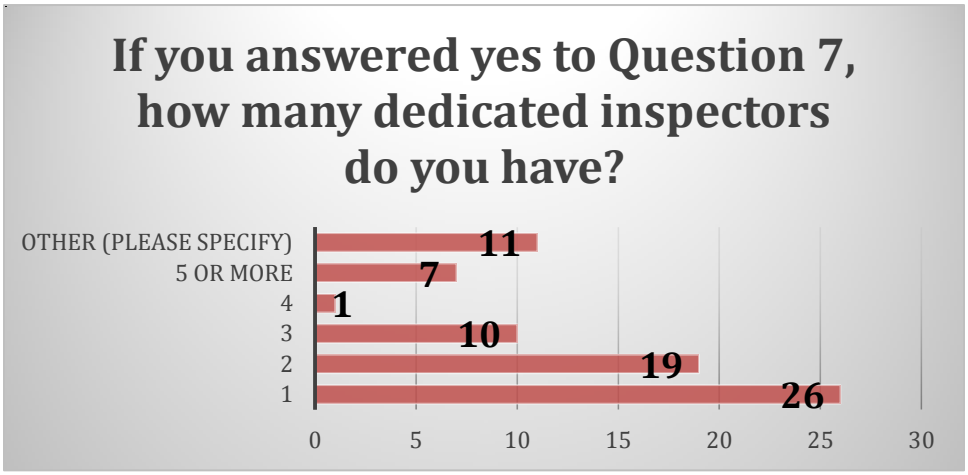


Question 6: Does your department perform fire inspections? This question had 82 responses and 81 of the fire departments perform fire safety inspections with only one department in the survey that did not perform fire safety inspections.

Question 7: Does your department have a dedicated fire prevention officer? Seventy-three (73) or 88% of the fire departments survey had a dedicated fire safety prevention officer.

Ten (10) representing 12% of the fire departments did not have a dedicated fire safety prevention officer.

Question 8: If you answered yes to Question 7, how many dedicated inspectors do you have?



The 11 answers to "Other" were:

1. 1 career Capt and 1 part time Firefighter (20 hours a week)
2. All personnel hold inspectors level certification
3. 2 Lieutenants and I Deputy Chief
4. 1 - 40 hr. inspector, 1 inspector working a split shift (2 - 12 hour days on shift and 16 hours per week doing inspection and other staff support) and 4 others on shift that complete inspections while on shift or off shift for comp time.
5. 1 Full Time Marshal and 4-6 Part Time Inspectors
6. Almost 2 years ago, the city cut our dedicated fire inspector position mainly due to wanting to save more money (we are not hurting financially). The thought process on their part is that we don't do anything

and can send guys out during the day. At 3300 runs a year, it is quite difficult to accomplish this important task. Add training and daily tasks but they know better than a Fire Chief I guess.

7. 6 plus one full time Fire Plans Examiner
8. 1 40 Hr, and 3 Shift Lts. (Capts also carry the Certification, but generally don't perform inspections)
9. The Assistant Fire Chief is responsible for managing the fire prevention program (inspections)
10. All full-time firefighters get trained as Fire Safety Inspector
11. 1 full time 8-hour inspector and a Risk Reduction Deputy Chief

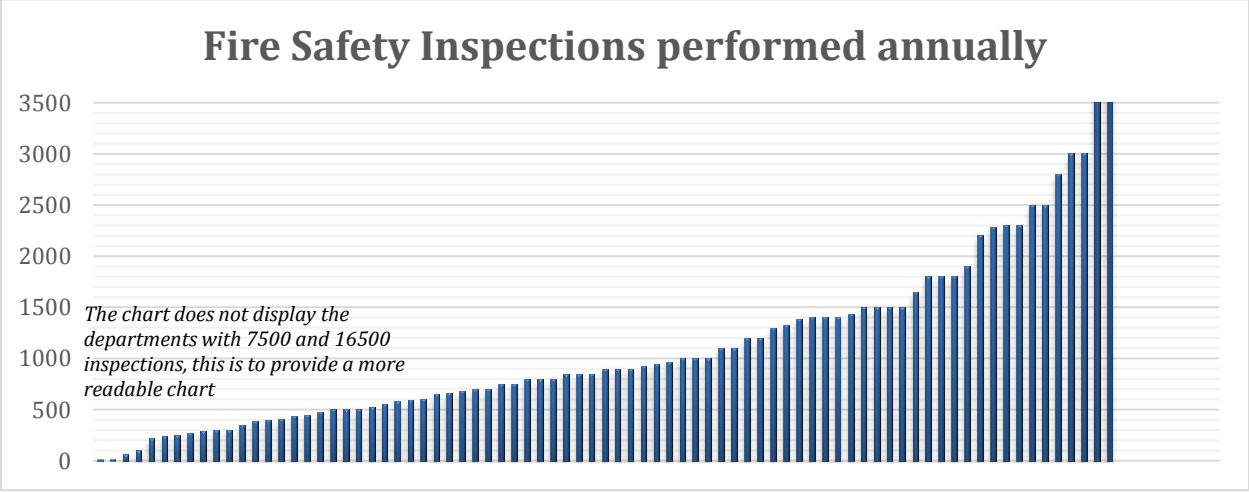
Question 9: If you do not have a dedicated fire inspector, who performs your inspections?

Fifty percent answered by using their fire companies to perform the fire safety inspections. The other 50% answers are listed below:

1. Fire Chief and 6 Lieutenants
2. The two inspectors (Lt.'s) assigned to fire prevention.
3. FSI inspect commercial, Line inspect multi residential
4. Shift personnel who are Ohio certified fire safety inspectors
5. We have 2 firefighter/Paramedic FSI assigned to our office
6. We have 2 firefighter/Paramedic FSI assigned to our office
7. Our Asst. Chief goes out for the high hazard ones which is about all he can fit in. We try to get our officers and one other FF/Inspector out but it is challenging.
8. Our fire crews also complete Company Fire Inspections
9. N/A

10. Asst Chief
11. Companies supplement the inspectors as they are also shift personnel.
12. In addition to the two Fire inspectors- all fire companies do the inspections also
13. Each platoon has 1-2 certified fire safety inspectors. Eventually, all personnel will be certified and the platoon commanders will be responsible for managing their shift's inspections.
14. 1 assigned to each of the 3 shifts
15. We use our fire prevention officer and on shift inspectors if needed

Question 10: How many commercial occupancies do you have in your jurisdiction that require inspections? Eighty of eighty-three surveyed responded to the question. 4 answered between 0-100, 17 answered between 101-500, 27 answered between 501-1000, 15 answered between 1001-1500, 5 answered between 1501-2000, 6 answered between 2001-2500, 3 answered between 25001-3000, 1 answered 7500, 1 answered 16500 and lastly, one gave N/A.

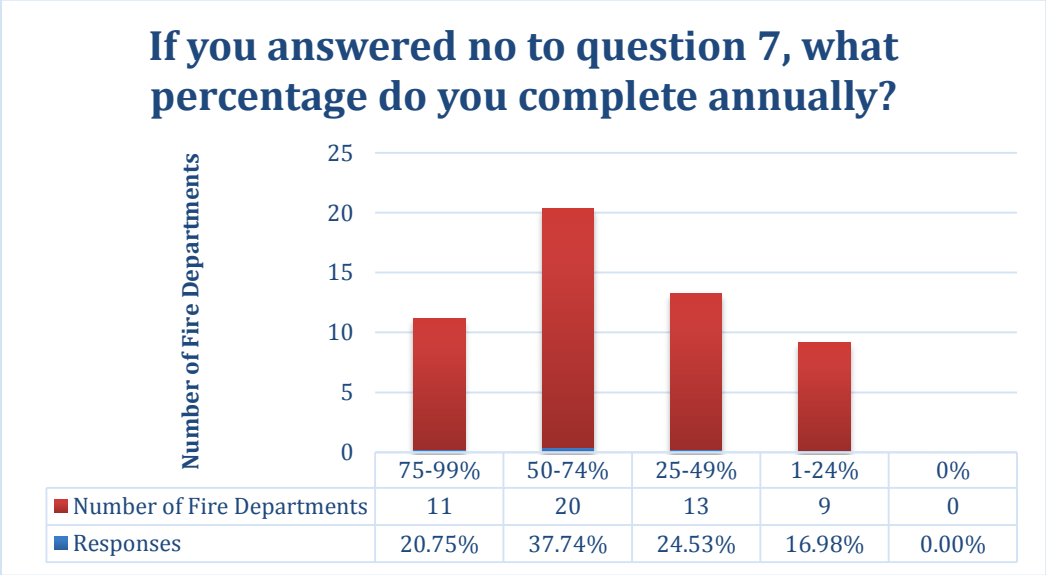


The Question 11: Does your department complete an annual inspection in all of them? Thirty-two percent of the departments complete an annual fire safety inspection to all its commercial

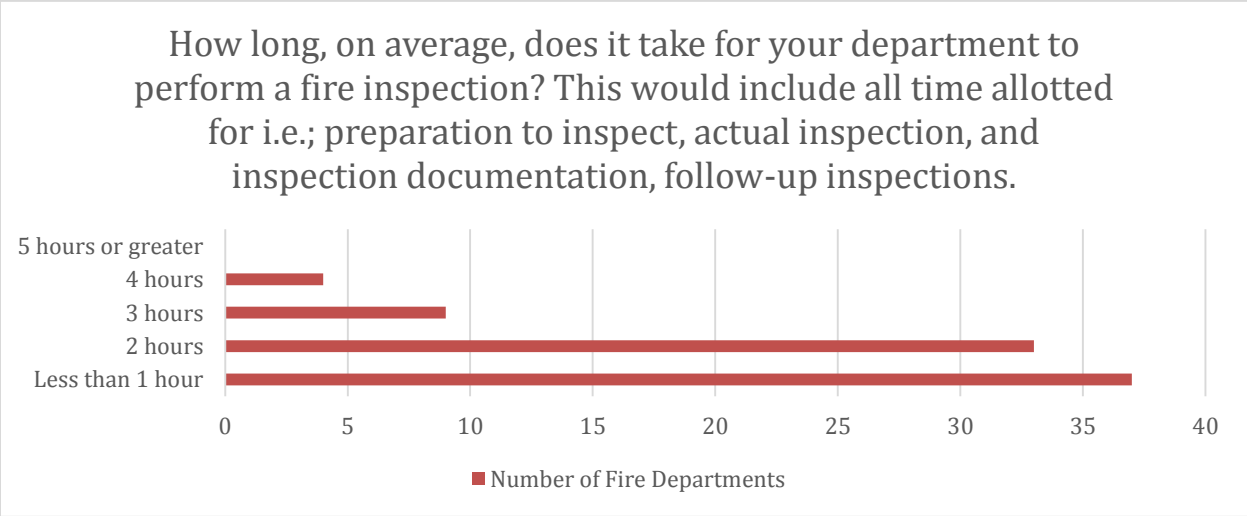
properties in their jurisdiction. Fifty percent answered “no” and 18% answered with the following:

1. No, there is a rotation based upon code regulations and frequency risk analysis
2. 18-month cycle
3. We are working towards 100%. Previous Admin was not conducting regular inspections.
4. Annual inspections of 17 hotels in area of jurisdiction are completed by the State.
5. Companies perform annual inspection of all commercial occupancies. Dedicated inspector does inspections of these occupancies as need, i.e. change in ownership.
6. Not yet, but we are moving toward that goal.
7. They are assigned however not always inspected.
8. FSI inspect commercial, Line inspect multi residential.
9. We complete assemblies annually and all others every 3 years.
10. Yes, but it takes about a year and three months to complete all inspections.
11. We try to do every commercial occupancy once every other year. We do the schools in town every year.
12. We try but historically come up short.
13. We have started a rotation where some free-standing buildings get inspected every other year unless they have some type of system.
14. As best as we can.
15. We attempt to inspect them all each year; probably 90%.

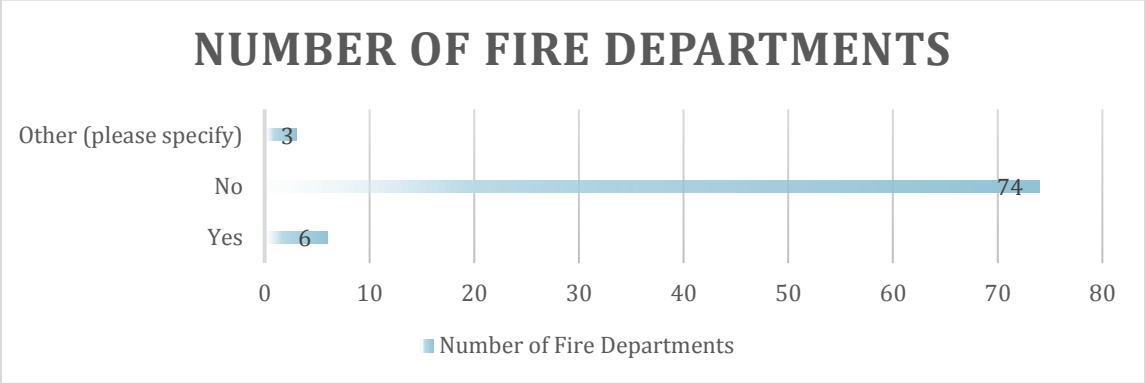
Question 12: If you answered no to question 7, what percentage do you complete annually?



Question 13: How long, on average, does it take for your department to perform a fire inspection? This would include all time allotted for i.e.; preparation to inspect, actual inspection, and inspection documentation, follow-up inspections.



Question 14: Does your department charge for fire inspections? If you answer no, skip to question 16.



”Other” responses for question 14:

1. Only charged permitted business $50/ article.
2. Not for initial Fire Safety Inspection. Yes, for a re-inspection.
3. Charge for permits and system tests.

Question 15: What is your departments fee for an initial inspection?

1. $75-$250
2. $30.00
3. $100
4. $25.00 up to $75.00 depending on square footage
5. $40 for general
6. Varies on the occupancy
7. Twenty-three answered $0

Question 16: What is your departments fee for a re-inspection?

This question had 33 responses as follows:

1. $150
2. $50
3. $75 for 2nd reinspection
4. 0 for first re-inspection, second re-inspection$50, 3rd $100, 4th$100

5. Starts at $100 and goes up to $300, first re-inspection is free
6. $50
7. $75
8. $50 after 2nd re-inspection, $50 increment increases for each inspection after that.
9. $40
10. $25
11. $50
12. Once it gets to the third inspection it is $50.00
13. Twenty-one answered $0

Question 17: Does your department have any additional fees, such as EMS billing, false alarms, burn permits, or any other miscellaneous fees? Nine fire departments answered “no”.

The seventy-four responses are as follows:

1. 25 departments bill for EMS runs
2. False alarm billing
3. EMS Billing, permit fees, special event coverage
4. EMS billing and false alarm billing starting 01/2018
5. Fee for response if you do not live in our first due area. Only exception if it is a mutual aid call, then we do not bill for that response. EMS Billing, False Alarm fees
6. EMS billing and Hazmat costs.
7. EMS soft billing
8. EMS and various permits including UST's, AST's, fireworks, flame effects, systems permitted to be OOS, and temporary amusement buildings.

9. EMS billing brings in about $1.1 million
10. Ems billing, Yes. False alarms for nuisance alarms, for example responding to the same problem multiple times (3 or more). We also bill for re-inspections on acceptance testing on new construction. For example above ceiling inspections of sprinkler systems, thrust blocking of underground piping, fire alarm acceptance testing.
11. EMS Billing and Tent permits and UST permits (we are a delgated authority by BUSTR)
12. EMS billing, Fire Permits for new systems or updating systems
13. EMS billing, plan review fees
14. EMS Billing, After hours inspection fee, dedicated EMS standby fee
15. We charge permit fees based on the requirements found in the Ohio Fire Code 2011. We charge $75 for the first permit and $25 for any additional permits. Single use permits such as open burning or fireworks are charged $75 each time.
16. EMS billing, nuisance alarm fee
17. EMS billing, after hours OT for re-inspection
18. Just EMS Billing
19. EMS, Multiple false alarms, permits related to new construction
20. EMS Billing, Hazardous Materials storage fee
21. EMS Billing, False Alarm Fees, Permits
22. False alarms, hydrant permit fees
23. EMS billing, Fire Alarm Systems Permits/ Daycare Inspection permits
24. EMS billing, fireworks permits multiple false alarms

25. EMS Billing, false alarm fee after third alarm.
26. EMS billing, burn permits
27. EMS Billing - Permits (as per OFC), Plan Review Fee, etc.
28. nuisance alarm billing, etc.
29. EMS Billing, False Alarms after 3, Plan Review and other Permits
30. EMS, Permits, plan review
31. Plans review fees, after hours inspection fees, special event overtime, EMS billing
32. $100 for second and any additional
33. Fireworks Permit Fee, which covers cost of before, during and after inspection.
34. EMS Billing, Nuisance Alarms
35. We can charge for false alarms after three times, we also charge for inspection fee for festival vendor events
36. $5 bonfire permit fee, $5 Fire Report fee, False alarm fee after so many false alarms. I believe it is $200 first time. Initial LPG permit fee based on size of tank.
37. Occupancy and we will begin EMS billing next year.
38. EMS Billing, False Alarm Fee
39. Soft billing for vehicle accidents, vehicle fires, and mutual aid structure fires and false alarms.
40. EMS billing and cost recovery for hazmat
41. EMS billing, Hazmat
42. EMS billing, Tents, Burn Permits
43. EMS Billing, but revenue goes directly to General Fund, not back to FD
44. EMS, false alarms (multiple offenses)

45. We charge for EMS transports, currently considering charging for treatment, no transport. We also have fees for hydrant permits, bonfire permits, propane sales.
46. EMS Billing, multiple permit fees
47. EMS Billing, transports only
48. EMS billing, fire alarms and hydrant use permits

APPENDIX 8–HISTORY OF VWFD INSPECTIONS PERFORMED

Year	Total Inspections	Annual	Follow-up
2016	**251**	71	66
2015	**331**	90	105
2014	**324**	108	101
2013	**292**	127	128
2012	**195**	91	35
2011	**148**	110	23
2010	**179**	115	2
2009	**230**	108	5
2008	**154**	134	1
2007	**201**	142	3
2006	**152**	99	1
2005	**223**	156	9
2004	**282**	180	3
2003	**264**	170	1
2002	**192**	143	2
2001	**136**	119	4
2000	**82**	75	

	Total Inspections	Average Inspections Total	Total Annual Inspections	Average Annual Inspections	
2009-2016	1950	244	820	103	Lieutenants performing inspections
2000-2008	1686	187	1218	135	Full Time Prevention Officer