

An Evaluation of the South Euclid Fire Department Fire Prevention Bureau

By: Tedman Shoop
Captain
South Euclid Fire Department
1349 South Green Road
South Euclid, Ohio 44121

A research project submitted to the Ohio Fire Executive Program

02 January 2014

CERTIFICATION STATEMENT

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ABSTRACT

The SEFD has seen an approximately fivefold increase in the number of calls it responded to in its 61 year history. The problem addressed was that although the call volume has seen a steady increase, the staffing of the fire prevention bureau has remained stagnant. The purpose of this study was to use descriptive research methods to provide information to assist in revising or establishing new policies and procedures related to fire prevention activities in the SEFD. The current duties and responsibilities and staffing level of the SEFD were evaluated and then compared to other area fire departments.

A survey was created and sent to selected departments to gather information. A literature review was performed to determine if national or state standards exist that specify the activities, responsibilities and staffing levels of a fire prevention bureau. This information was used to determine what the appropriate staffing level should be in the SEFD FPB and to determine if it is meeting the fire prevention goals and industry standards. The results of this study showed that the SEFD performs all of the identified duties and responsibilities of a fire prevention bureau albeit at a basic level. The bureau does this with one person assigned to it. The survey data gathered revealed that the average FPB staffing level in our area is 1.72. Data also revealed that fire prevention funding is well below where it should be.

The recommendations of this research are to increase the staffing of the SEFD FPB by assigning the fourth shift lieutenant to fire prevention duties when he is on shift weekdays from 0800-1600. This would increase the FPB personnel hours by 35%. Additionally, fire prevention activities need to be increased to at least 3% of the total fire department budget.

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INTRODUCTION

Statement of the Problem

Since the inception of the American fire service in the mid 17th century, fire suppression, which is dealing with fire after it has occurred, has been the priority for many departments. This reactive mindset contradicts the idea that preventing a bad situation is preferable to reacting to a bad situation. In these strained economic times, fire departments and other public safety agencies need to keep a keen eye on their operations and must constantly be evaluating if the citizens they protect are receiving the most value for their tax dollars (Walters, 2011).

Over the past fifty years the South Euclid Fire Department (SEFD) has had approximately a fivefold increase in calls for service (SEFD annual reports). These calls for service include emergency medical responses and fire related calls. However; the staffing of the department's fire prevention bureau -- which has historically been responsible for fire safety education, inspections and code enforcement -- has not increased. The SEFD fire prevention bureau has been staffed by one full-time member since 1956.

The problem this study addressed was the deficiency in the fire prevention bureau operations in providing services to the public.

Purpose of the Study

“Fire prevention and life safety depends on thorough and accurate fire inspections of occupancies and the review of building plans” (NFPA 1031, 2009). *The purpose of this study was to* use descriptive research methods to provide information to assist in revising or establishing new policies and procedures related to fire prevention activities in the SEFD. NFPA

1031 describes minimum requirements for the position of fire inspector. This study will determine if the department meets the minimum requirements for the duties and responsibilities identified, and if the current staffing level is sufficient to meet these needs.

Research Questions

The research questions this study addressed are:

- 1) What are the current duties and responsibilities and staffing level of the South Euclid Fire Department fire prevention bureau?
- 2) What are the duties, responsibilities and staffing levels of similar department's fire prevention officers?
- 3) What national or state standards or guidelines exist that specifies the activities, responsibilities and or staffing levels for fire prevention bureaus?
- 4) What would be an appropriate staffing level to accomplish the identified duties, responsibilities and work scope of the SEFD fire prevention bureau?

BACKGROUND AND SIGNIFICANCE

The Ohio Fire Code (2007) grants the South Euclid Fire Department the authority to enforce the provisions of the *OFC* based on the fact that we are a municipal corporation with a fire chief (section 104.1.1). The *OFC* further explains that its intent is to protect the public as well as fire fighters and emergency responders from the hazards of fire and dangerous conditions in new and existing structures (section 101.3).

The City of South Euclid, Ohio is an inner ring suburb of Cleveland, Ohio. It encompasses five square miles and has a population of 22,295 (2010 census). The South Euclid Fire Department was formed on May 22, 1922 as an all-volunteer department. On April 1, 1952 it became a full time department. Currently the department has 29 full time members assigned to suppression and three staff officers including the chief, assistant chief and fire prevention officer.

The South Euclid Fire Department annual reports (1956-2011) indicate that fire prevention has always been a priority for the department. Statistics from these reports indicate in-home fire safety inspections were performed by suppression personnel beginning in 1965 but stopped by 1979. For many years these home inspections numbered in the thousands. Additionally, based on photographs from these reports, fire safety messages were posted on the front of the fire station to promote a variety of fire prevention messages to residents, from seatbelt safety to changing smoke detector batteries.

The call volume for the SEFD has gone from 647 calls handled by 28 personnel in 1956 to 3097 calls handled by 33 personnel in 2011, a disparity of 23.10 calls per firefighter in 1956 to 93.84 calls per firefighter in 2011 (SEFD annual reports). Records show that department manning has remained relatively steady since the 1950s although call volume has continually risen. Since 1956, there has been at least one person assigned as FPO for the SEFD.

Departmental records indicate the position has been held by an officer every year except 1964 and 1978 and from 1996 to present (SEFD annual reports). Currently, the FPO is responsible for plan review with the building department, inspections of educational and assembly occupancies, and system tests. The remainder of what are traditionally duties of the FPO has all trickled down to the shift level, such as regular company inspections, fire safety house education at our schools and public education.

The significance of this project is that it will evaluate and identify areas where the SEFD is deficient in meeting its fire prevention goals and industry standards. *The potential impact this study could have on the South Euclid Fire Department is determining whether the current fire prevention staffing situation is sufficient and potentially identifying a recommended way forward for fire prevention activities at the department.*

LITERATURE REVIEW

To understand the duties and responsibilities of a modern fire prevention bureau require a brief history of the early fire service. Early New England settlers used construction techniques that were familiar to them in Europe. Some of these standards were building chimneys out of mud and clay and using thatch for roofing materials. It was quickly learned that the heat from the fires dried out the mud in the chimneys and spread hot embers igniting the roofing materials. Recognizing these issues, thatch roofs and wood chimneys were outlawed. Fines were levied which was the beginning of enforcing some of the first fire laws. As towns grew, laws were

needed to protect citizens from fire. These laws described the responsibilities of homeowners and fire protection authorities (Fire Chiefs Handbook, 2003).

Carter (2007) described the principles of fire prevention. Standards relating to all aspects of building design and maintenance were created with the goal of preventing most fires and reducing losses by fire. Codes, standards and recommended practices were designed after several major fires which became what today is known as The National Fire Code. These codes were created by the National Fire Protection Association (NFPA) which was formed in the late 1800s (NFPA). These codes are merely guidelines unless adopted by a government entity. Once adopted, local governments have the authority to enforce state regulations that support codes where they exist and through enacting their own ordinances.

Benjamin Franklin, thought of by many as the father of the American fire service, tells us, “an ounce of prevention is worth a pound of cure” (Poor Richard’s Almanac). Crawford (2011) takes this quite a bit further by explaining that there are three main components to a basic fire prevention program: plan review, code enforcement and public education. He explains that the fire department has the best opportunity to ensure the proper fire and life safety issues are addressed when plan review is coordinated with local building officials, which is usually the case. Crawford continues that code enforcement is what gives the fire department the authority to ensure compliance with fire regulations. The final component of a basic fire prevention program is public education. Crawford reminds us that the fire department’s code enforcement abilities are extremely restricted in one and two family dwellings but these are where most fires, fire deaths and other injuries occur. The author explains the two major components of fire education are general education, where the messages are aimed towards the general public and school education, which aims for a more specific target audience.

A historical look at early fire prevention efforts shows us that many changes in prevention came about only after a large loss of life or property. The Triangle Shirtwaist factory fire in New York City in 1911 killed 146 workers. It was after this great loss of life due to fire that The Fire Department of New York (FDNY) formed its fire prevention bureau (Fire Chiefs Handbook, 2003). This fire also led the NFPA to form the Committee on Safety to Life which led to what is now known as *NFPA 101 Code for Safety to Life from Fire in Buildings and Structures* (Fire Chiefs Handbook, 2003).

Traditional fire prevention bureau's as we know them were formed in the early twentieth century. In fact, the Columbus, Ohio Fire Department was performing fire inspections as early as 1897 (Diamantes, 2005). The author continues to explain that the earliest fire prevention ordinances authorized fire prevention bureaus to investigate the cause and origin of hostile fires. Non-traditional fire prevention bureau's delegate the tasks commonly associated with fire prevention duties to other agency's or simply do not undertake fire prevention activities. In the aftermath of The Imperial Foods chicken processing plant fire in Hamlet, North Carolina, a fire that killed twenty-five employees on September 9, 1991, the fire chief was quoted as saying “*this entire incident centered around the lack of enforcing existing fire codes because the department was not adequately staffed to perform inspections*”. The Imperial Foods fire is just one example that demands fire prevention duties be performed at some level at the very least.

Although steps were taken to increase fire prevention efforts after the major loss of life in The Triangle Shirtwaist factory fire, *Third Needs Assessment of the U.S. Fire Service* (NFPA, 2011) makes it clear that current fire prevention efforts aren't enough. The assessment reported six major categories in which U.S. fire departments are lacking: plans review (down 13% since 2001); permit approval (down 7% since 2001); systems testing (down 6% since 2001); smoke

detector distribution (down 17% since 2001); juvenile fire setter programs (down 2% since 2001); and school programs (down 12% since 2001). Smoke detector distribution had the largest decline (17%) followed by plans review (13%) and school programs (12%). According to the NFPA report, roughly four million homes in America are without working smoke detectors. This report further stated that plan review is essential in assuring that new buildings comply with applicable codes and standards. Lastly, this analysis stressed the need for an increase in school programs because it gives the best opportunity to mold behaviors for an increase in fire safety and awareness.

According to Crawford (2011), one reason to explain why fire prevention programs are lacking is because “they receive far less funding than emergency operations and when cuts do occur, prevention programs are often the first to be cut” (p. 217). He stresses that in lean budget times, prevention programs need to produce results and there are ways to indicate whether programs are producing desired results. Workload, efficiency and effectiveness measures are ways to accomplish this. Workload measures reflect how much work is being done, efficiency measures refine workload measures to indicate whether or not they are being done in the most efficient way and effectiveness measures the impact or outcome of a program. Crawford stresses that it is more statistically accurate to compare a jurisdiction to its own history, rather than trying to compare it to another. Benchmarking is one way of identifying best practices and comparing results as a way to improve performance.

Karter, Jr. (2012) proposed solutions to address the areas in which fire prevention efforts are lacking. In an NFPA report, statistics showed that there were 2,520 civilian fire deaths in homes in 2011. This is a reduction of 3.7% from 2010 and a 51% reduction from 1977 when there were 5,865 fire deaths in homes. Karter notes that fire safety initiatives targeted at the

home remain a key to any reduction in the overall fire death toll. The author highlights five major strategies to accomplish this: first, more widespread public fire safety education is needed on how to prevent fires and how to avoid injury or death if a fire occurs. Second, more smoke detectors need to be installed and maintained in homes and fire escape plans need to be developed and practiced. Third, use of residential sprinklers must be aggressively pursued. Fourth, home products need to be more fire safe. Fifth, the special fire safety needs of children, the elderly, the poor and people with disabilities need to be addressed.

Data researched and collected (SEFD annual reports 1956-2011), shows a steady rise in actual fire inspections performed by the SEFD fire prevention bureau with 151 inspections performed in 1956 and 1350 performed in 2011. Fire inspections peaked in 2003 when 1648 were performed. Throughout the years, only one person at a time was appointed to the fire prevention bureau and this person was known as the fire prevention officer. Since 1996 the person appointed to the position of fire prevention officer for the SEFD has been a firefighter appointed to the position by the Chief. The FPO position is not currently an officer position.

It is evident from the literature cited here that fire prevention has been given moderate attention since its inception in the 1800s, but that more effort needs to be made to improve fire prevention programs. Evidence and reports from the various literature reviewed provides detailed and useful recommendations relating to the standard duties and responsibilities that the SEFD should strive to meet.

The literature review provided insight into how fire departments locally and nationally value fire prevention activities. Although most departments understand that fire prevention activities must be performed at some level, research shows that it is at the low end of priorities at budget time. The literature review was the starting point in determining what questions would

need to be answered in the survey. The data collected by survey was intended to determine the value and priority that fire departments that the SEFD routinely interacts with place on fire prevention activities. The approach taken with this research paper was to initially determine industry standards and then to compare the SEFD with departments similar in demographic and geographic areas.

PROCEDURES

The procedures this descriptive research project began with a review of previously written research papers from the OFE program and the Executive Fire Officer (EFO) program that dealt with fire prevention activities in order to give the author some direction. A comprehensive literature review was conducted with the intent of gathering information from fire service leaders that are experts in fire prevention. Records from the South Euclid Fire Department annual reports, specifically the fire prevention activity, were used to compare the SEFD with current NFPA standards to determine if there are any areas where we are deficient. NFPA 1031 (Annex C) describes in detail the minimum qualifications for Fire Inspector I, II and III certification. The significance of this information is that it identifies National Standards relating to minimum qualifications required of a fire inspector (appendix 1).

An email was sent to 50 fire departments that were chosen based on geographic and economic similarities and established working relationships (appendix 2). The similarities and working relationships provided the necessary validity for this specific aspect of the research project. A starting point as to who would provide beneficial information were departments that are in the SEFD mutual aid box alarm system (MABAS) along with departments that are members of the Cuyahoga County Fire Chiefs Association (appendix 3). The email was sent to

the fire chief of the departments explaining why the author was requesting information and asked him/her to complete a short survey at www.surveymonkey.com (appendix 4) or forward it to the person responsible for fire prevention activities in their department. The introductory section of the survey was intended to create a demographic snapshot of the 50 fire departments and compare them to the SEFD for a total of 51 surveys. Thirty-one surveys (62%) were returned. The survey asked for information that was used to determine how the departments staffed and budgeted for fire prevention activities along with the duties performed by their bureaus. This information and the results from the survey were used to compare the SEFD with the aforementioned departments and national standards to identify areas where improvements are needed and the benefits, if any, of changing the duties, responsibilities and staffing of the SEFD fire prevention bureau.

Limitations of the Study

The surveys were distributed with the assumption that the person that responded would take the time to gather and provide accurate information especially where statistics were requested. The survey also may have provided different results if it were taken in other parts of the country due to a difference in fire department culture and economic factors.

Personal interviews were held with the SEFD Fire Chief Richard Huston and the current fire prevention officer, Scott Sebastian on February 15, 2013. The interviews lasted approximately 30 minutes each and consisted of two questions. The purpose of these interviews was to determine if the people responsible for fire prevention activities feel they are making enough of an impact with regards to fire prevention duties and responsibilities and where they may be lacking, if at all. The questions asked were:

- 1) In your opinion, is the SEFD fire prevention bureau current and relevant with regards to the duties and responsibilities of the office?
- 2) In your opinion, what changes are necessary to accomplish the duties and responsibilities of the office?

RESULTS

The literature review for this project was the starting point towards gathering information and statistics already known regarding fire prevention activities at the local, state and national level. In addition, research projects from OFE and EFO specific to fire prevention, were reviewed. In an effort to compare the SEFD with other fire departments that it routinely interacts with, a survey was sent to 50 fire departments. Thirty-one (62%) departments responded to the survey. Of the departments that completed the survey, sixteen (51%) were from a full time department and five (16%) were from a part time department. Nine (29%) represented a combination (full time and part time) department and one (.03%) was fully volunteer.

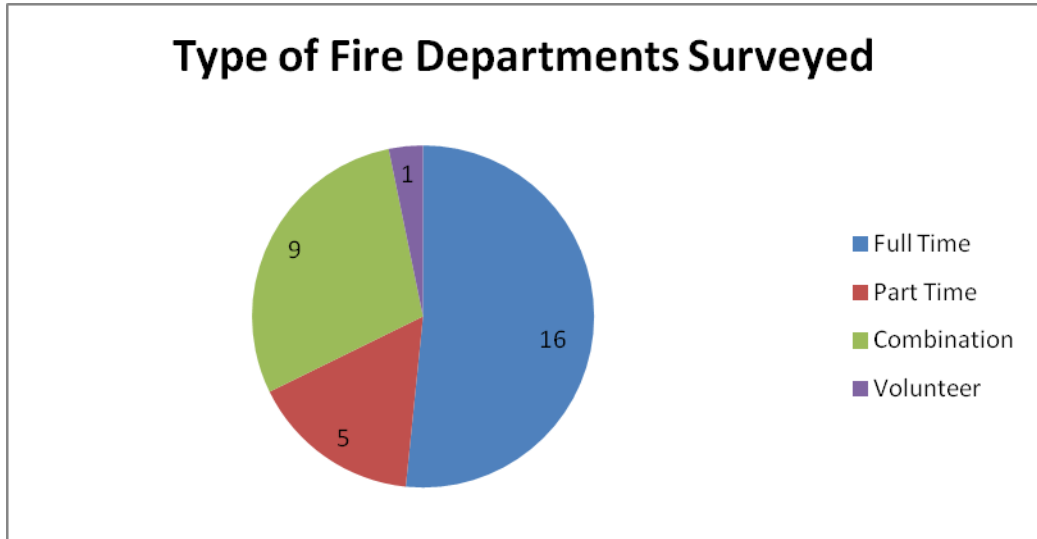


Figure 1.

The goal of this research was to answer the following questions:

Question One

What are the current duties and responsibilities and staffing level of the South Euclid Fire Department fire prevention bureau?

The current duties and responsibilities of the position of fire prevention officer for the SEFD are spelled out in a departmental job description dated January 15, 2001 and are as follows:

- Supervise and conduct inspections of all mercantile, educational, public places of assembly, multiple dwelling units and institutional occupancies in accordance with the fire codes adopted by the City of South Euclid including responding to complaints regarding fire code violations and fire hazards and the issuance of warnings and citations as necessary.
- Supervise and conduct inspections on fire suppression or protection systems including issuance of permits.
- Review occupancy permits, business licenses and construction plans for fire and life safety code compliance.
- Investigate fires for origin and cause determination.
- Perform firefighting activities and administer emergency medical aid.
- Assist in department administrative activities including developing policies and procedures.
- Provide education to employees and the public on fire prevention and public safety.

The position of fire prevention officer for the SEFD is staffed by one person full-time. The current fire prevention officer is a firefighter/paramedic assigned to the bureau by the fire chief.

Question Two

What are the duties, responsibilities and staffing levels of similar department's fire prevention officers?

Of the thirty-one surveys returned, the duties and responsibilities identified were:

- 31 departments perform fire inspections
- 31 departments perform fire alarm and/or sprinkler system testing.
- 30 departments participate in public education.
- 28 departments perform fire investigations.
- 24 departments participate in permit approval.
- 20 departments offer CPR training to residents.
- 20 departments distribute and/or install smoke detectors.
- 15 departments have a Juvenile Fire Setters Program.
- 8 departments install child safety seats.

The SEFD performs or participates in all of the previously mentioned activities.

Of the thirty-one departments that returned surveys, 21 have personnel specifically assigned to fire prevention duties with an average staffing level of 1.72. Six departments have a firefighter assigned to fire prevention duties and 25 have the position filled by an officer. Of the officers assigned, eight are lieutenants, five are captains and twelve are chief officers.

Question Three

What national or state standards or guidelines exist that specifies the activities, responsibilities and or staffing levels for fire prevention bureaus?

NFPA 1031 *Standard for Professional Qualifications for Fire Inspector and Plan Examiner* (1977) was completely revised in 2009. NFPA 1031 is the national standard that defines three levels of progression for fire inspectors and it is the intent of the standard to specify minimum job performance requirements for service as a fire inspector. A summary of the principal responsibilities of the three levels are as follows:

- Inspects public, commercial and residential structures for compliance with jurisdictional codes and standards.
- Conducts inspections of fire hazard complaints.
- Identifies correction necessary to bring properties into compliance with applicable codes.
- Assists citizens and other agency personnel with code interpretations and information when requested.
- Issues citations for fire code violations.
- Provides court testimony regarding fire code violations.

Per NFPA 1031, the obvious difference in the three levels of fire inspector is in formal education. A Fire Inspector 1 candidate *should* have a minimum of an associate's degree in fire science or equivalent. Fire Inspector 2 candidates *should* have a minimum of a bachelors degree in fire protection, fire science or equivalent and a fire inspector 3 candidate *should* have a minimum of a bachelors degree with a masters degree preferred with a concentration in fire science, public administration or a related field. The current

FPO for the SEFD has an associate's degree in fire science and is presently working towards his bachelor's degree in fire science. Attaining a bachelor's degree would place him at the fire inspector 2 level.

A follow up email was sent to the departments that responded to the author's fire prevention survey. The email asked if the person on their departments responsible for fire prevention duties and responsibilities possesses any formal education specific to fire science or public administration. The results were as follows:

- 20 have no formal education.
- 3 possess associates degrees (meets Fire Inspector 1 minimum standards).
- 8 possess bachelor's degrees (meets Fire Inspector 2 minimum standards).
- 2 possess a master's degree in public administration. (meets Fire Inspector 3 minimum standards).

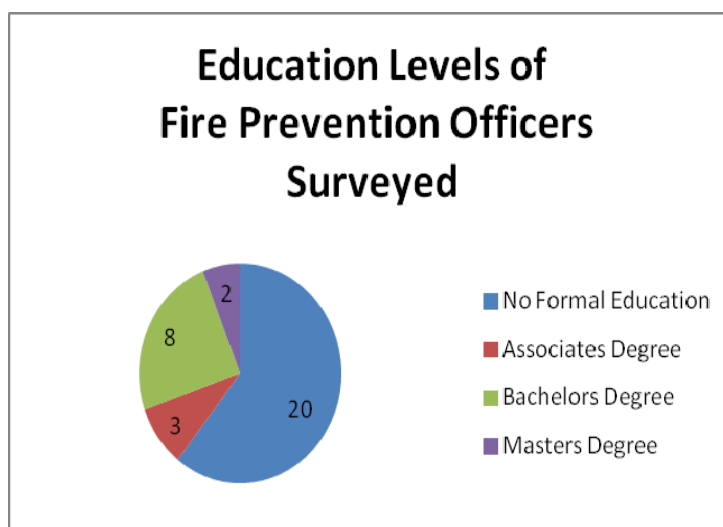


Figure 2.

The Ohio Fire Code as adopted by the Ohio Department of Commerce, Division of the State Fire Marshal is currently the standard that the SEFD utilizes as their fire

prevention code. The Ohio Fire Code was originally adopted as the City of South Euclid Fire Prevention Code on May 26, 1998 (Ordinance 36-98) and is identified as the “code” in section 1510.01 of the City of South Euclid codified ordinances. Section 1510.04 of the City of South Euclid codified ordinances identifies the duties of the fire safety inspector:

📖 1510.04 ENFORCEMENT; RESPONSIBILITIES OF MUNICIPAL FIRE SAFETY INSPECTOR.

(a) No person shall serve as a Municipal Fire Safety Inspector unless he or she has received a certificate issued by the Ohio Superintendent of Public Instruction under Ohio R.C. 3303.07 evidencing his or her satisfactory completion of a fire safety inspection training program.

(b) The Municipal Fire Safety Inspector, upon examination or inspection, shall issue citations when he or she finds conditions as specified in Ohio R.C. 3737.41 which are especially dangerous to the safety of persons, buildings, premises or property, and shall make any necessary remedial orders in connection therewith. Citation enforcement may be by use of the procedures established by Ohio R.C. 3737.42 for hearing on the citation or Ohio R.C. 3737.44 for injunctive relief or a temporary restraining order and oral order for vacation of the building or premises.

(c) The Municipal Fire Safety Inspector, upon reasonable belief and after inspection or investigation, shall, with reasonable promptness, issue a citation to the responsible person for a violation of the City of South Euclid Fire Prevention Code or any order issued by the Ohio Fire Marshal or any Municipal Fire Safety Inspector. The citation shall fix a reasonable time for abatement of the violation. Each citation issued under this subsection shall be prominently posted by the responsible person, as prescribed by this Code, at or near each place a violation referred to in the citation occurs.

(d) Upon request of the Municipal Fire Safety Inspector, the Director of Law shall institute and prosecute any necessary action or proceeding to enforce this Code or Ohio R.C. Chapter 3737.

Question Four

What would be an appropriate staffing level to accomplish the identified duties, responsibilities and work scope of the SEFD fire prevention bureau?

Results from the survey revealed an average fire prevention bureau staffing level of 1.72 personnel serving an average population of 18,840 residents. This results in an average of 1 fire prevention officer for every 10,953 residents. Considering that South Euclid has 22,295 residents, and comparing that to the average number of fire prevention personnel to population ratio would require at least one additional person assigned to the FPB. The identified duties, responsibilities and work scope required of the fire prevention bureau in the SEFD are currently being handled by one person working forty hours per week. The survey respondents reported an average number of fire prevention hours worked per week at 47.25. This statistic seems to suggest that the average number of fire prevention personnel per department work less than full time. In fact, seventeen departments reported having full time fire prevention employees; six reported part time and six stated they employ both full and part time.

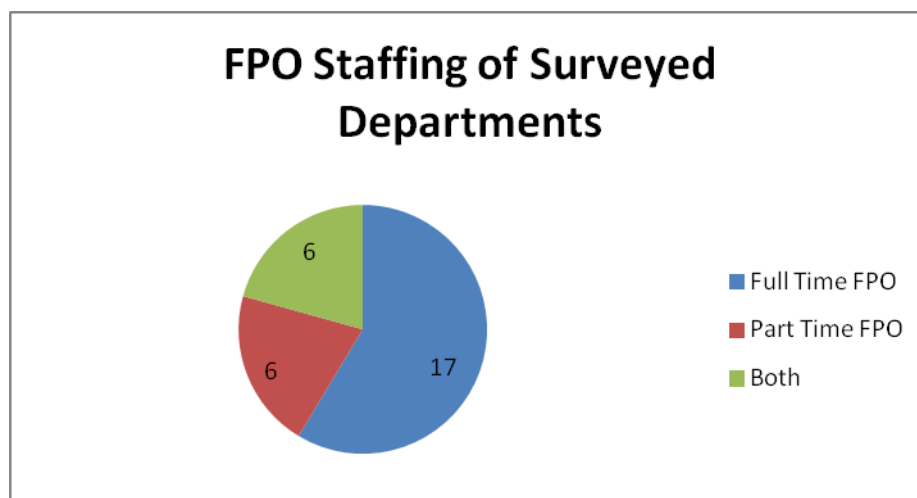


Figure 3.

The 31 fire departments that responded to the survey reported an average department budget of \$3,145,580 with 3.5%, or \$111,975 allocated for fire prevention including personnel. For 2013 the SEFD allocated 2.2%, or \$87,000 of its department budget for fire prevention activities.

DISCUSSION

The intent of the discussion section of this descriptive research project is to allow the author to provide his personal conclusions about the results of the study and to compare his findings with those discovered in the literature review. In addition, this section allows for the interpretation and/or evaluation of those results and to determine the implications, if any, they will have on the author's organization.

Since the early days of our country, fire prevention has been given attention at some level. Fire Chiefs Handbook (2003) explained that as towns grew, laws were needed to protect citizens from the ravages of fire. The laws created described the responsibilities of homeowners and fire protection authorities. The South Euclid Fire Department, in its current form was established in 1952. SEFD annual reports (1956-2011) are evidence that the SEFD has always placed a high priority on fire prevention and life safety. The National Fire Code was created by the National Fire Protection Administration (NFPA) which was formed in the late 1800s. Carter (2007) explains that these and state codes are merely guidelines unless adopted by a government entity. The Ohio Fire Code was originally adopted as the City of South Euclid Fire Prevention Code on May 26, 1998. The code adopted meets the criteria required of a fire prevention bureau as described by Carter (2007).

The survey that the author sent to similar fire departments revealed that all respondents participated in fire prevention activities at some level. Crawford (2011) explains that there are three main components of a fire prevention program: plan review, code enforcement and public education. These components were the authors starting point in evaluating the duties and responsibilities of the target group and then comparing them with the fire prevention bureau of the SEFD. Further research revealed more specific items relating to fire prevention that needed to be assessed. The Third Needs Assessment of the U.S. Fire Service (NFPA, 2011) reported six categories where it was felt fire prevention efforts were lacking. In no specific order they are: plans review, permit approval, systems testing, smoke detector distribution, juvenile fire setters programs and school programs. One of the questions on the survey addressed a summary of these findings. The results revealed that all respondents performed basic fire inspections but all other categories were given less attention. The SEFD participates in all of the fire prevention activities identified in the survey.

When assessing the effectiveness of a fire prevention program, it is statistically more accurate to compare a jurisdiction to its own history rather than comparing it to others (Karter, Jr. 2012). The author researched SEFD annual reports to identify what historically have been the duties and responsibilities of the fire prevention bureau. These reports, when compared to call volumes of the department revealed that even though the department's calls for service have increased, the emphasis on fire prevention has remained relatively steady. One reason for the disparity could be because that when cuts or belt tightening is done in many fire departments, fire prevention programs are the first casualty (Crawford 2011). The survey results indicated that the average expenditure for fire prevention activities at 3.5% of total budgets. The SEFD budgets only 2.2% for fire prevention activities. An increase in the amount budgeted for fire prevention

in the SEFD is needed if it is to appropriately meet the fire prevention needs of the community it serves.

The results of this study revealed the identified duties and responsibilities of a modern fire prevention bureau are being accomplished by the SEFD. Research revealed that the SEFD performed 1101 fire safety inspections in 2012 compared to an average of 685 performed by survey respondents. There is always room for improvement in any organization and as such the only way to improve the service delivered by the FPB requires additional personnel. Survey results indicate that the SEFD is below average with respect to staffing of the bureau. When call volumes and populations of the survey are compared to the SEFD, it is apparent that the current staffing situation provides very little to no room to expand on its identified duties and responsibilities.

The implications of the findings in this research require that the fire department administration re-evaluate the financial commitment that it places on the FPB. The current staffing level is meeting the departments expectations of a FPB but it cannot be meeting the community's expectations when one considers that a modern FPB does much more than fire inspections. School education, down 12% and smoke detector distribution/installation, down 17% NFPA (2011) are just two examples of areas where the SEFD could utilize increased personnel.

RECOMMENDATIONS

The problem this study addressed was the deficiency in the fire prevention bureau operations in providing services to the public. The calls for service that the SEFD responded to have increased from 647 calls in 1956 to 3097 calls in 2012. During this period there has been

only one person assigned as fire prevention officer. Research has shown that departments similar in size with similar populations served staff their fire prevention bureaus with almost twice as many personnel as does the SEFD. Additionally, these same departments appropriate approximately 22% more to fire prevention than the SEFD currently does.

In order for the SEFD to continue to provide the proactive fire prevention services that the public requires and deserves, additional staffing is a necessity. Traditionally, the fire prevention bureau is where members of the department who are on extended injury or sick leave are assigned while they are less than fit for active duty. This proves that the work is there! This sort of situation creates an inconsistency in fire prevention operations and work accomplished. Currently, the SEFD has four lieutenants on three shifts. The fourth lieutenant floats and the position was originally created in 2007 to accomplish “special projects” per the fire chief at the time. This author was that lieutenant and was assigned to create pre-plans. This assignment fell right in place with fire prevention activities and many hours were spent working with the former FPO.

The recommendation of this author is that the fourth lieutenant be assigned part-time fire inspection duties. This fourth lieutenant works the traditional 24 hour on and 48 hour off schedule. Assigning this lieutenant to fire prevention for the first eight hours of each of his shifts Monday through Friday would increase the work hours specifically assigned to fire prevention by approximately 35%. This increase in staffing would place the SEFD at 54 hours per week which is more in line with the 47.5 hour average discovered by survey. The current FPO would be responsible for assigning duties and tasks as he sees appropriate. Some of the tasks that could be delegated are re-inspections, hood system testing, and education programs in the schools. The financial requirements to sustain the identified duties and responsibilities of this position are

much more difficult to address in these economic times. The adjustment in staffing is cost neutral as the additional staff is already scheduled. Placing fire prevention as a line item budget expenditure at 3.0% of total operations would increase funding to \$120,000 and show a more measurable commitment to fire prevention duties and responsibilities. Currently, the only item in the fire prevention budget is staffing at \$87,000. This additional \$33,000 could provide the following items:

- Upgraded computer system for fire prevention office.
- iPads or similar devices for company inspections and pre-plans.
- Upgraded software for pre-plan program.
- Advanced training in plans review, systems testing, and investigation for bureau personnel.
- Educational materials for school programs.
- Possible part-time administrative assistant staffing.

Future researchers looking to identify deficient areas in their own fire prevention bureaus need to first identify what it is that they currently provide to their residents or customers and what is missing? As was stated in the literature review, it is more statistically accurate to compare your jurisdiction to its own history rather than trying to compare it to others. Every department has a unique set of circumstances and financial resources. First and foremost, a consistent financial investment must be in place for all fire prevention bureaus. Your fire prevention bureau cannot be the first place to cut dollars when times are tough. Actually, it should be the last place to cut funding if we are to subscribe to the pro-active thinking that preventing something from happening is preferable to reacting to it after it has happened.

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APPENDIX 1 – NFPA 1031

Fire Inspector I:

- Conduct fire safety programs and have a working knowledge of methods of fire prevention, fire systems and building construction.
- Associates degree in fire science (or equivalent), drivers license and Inspector I certificate.

Fire Inspector II:

All the above in addition to:

- Conduct fire safety programs and have a working knowledge of methods of fire prevention, fire systems and building construction.
- Bachelors degree in fire protection (or equivalent), drivers license and Inspector II certificate.
- Four (4) years experience including one (1) year of lead responsibility.

Fire Inspector III:

All the above in addition to:

- Possess a thorough knowledge of principles, practices and techniques of modern suppression systems and fire prevention practices.
- Ability to apply knowledge to laws and ordinances with reference to code development, enforcement and administration.
- Bachelor's degree (minimum) in fire science, public administration or related fields. Masters degree preferred.
- Ten (10) years experience as a full-time employee with a career fire department.
- Driver's license and master inspector certificate.

APPENDIX 2 –INTRODUCTORY EMAIL

Dear Chief,

I am currently enrolled in the Ohio Fire Executive Program Class 12 sponsored by the Ohio Fire Chief's Association. As part of the curriculum, I am writing a research paper that will evaluate the duties and responsibilities of the South Euclid Fire Department fire prevention bureau. Attached is a link to a short survey that will provide me with the information needed to complete this project.

I would appreciate if you or the person on your department responsible for fire prevention activities would reply to the survey at your or their earliest convenience.

To access the link, click on <https://www.surveymonkey.com/s/5J2RPL7>

Thank you for your time and please contact me if you have questions or would like a copy of the final report.

Captain Ted Shoop

South Euclid Fire Department

tashoop@gmail.com

330-388-6868

