

Report on the Operations of the Fire Department

Submitted by Frank Matta, Chairman, Three Platoon Sub Committee

October 5, 2015

Honorable Committee Members:

The background in labor relations that I am familiar with is the forty hour work week based in private sector. Having begun my tenure on the committee and researching the peculiar items associated with the fire service, the work schedule was explained and accepted by me as the norm.

The proposed change has been assigned to me to vet for worthiness, and I have taken this component from a breakdown of five in the sub-committee. I have spent numerous hours researching and documenting the thoughts that follow.

Operationally, the residents of Cumberland need protection, help and assistance 365 days each year. In my time on the committee, I have learned that there is no set schedule for a need to arise. Currently, protection is provided in a manner covered by four platoons. Each of these platoons consists of twelve members distributed strategically throughout the town. The proposed addition of 25% more work with 25% less members is unrealistic. Again, based on my private sector labor relations, hours over forty would be compensated at 150% or time and a half or salary. The expense portion is being calculated by another member of the sub-committee, but the reference to North Kingston continues. Yet, when we reviewed their current budget, it has increased over \$800,000. The combining of the four districts has just begun, and with any merge of corporations, there are savings to be realized after careful examination of the functions provided.

My research has indicated that many departments list 56 as the work week, when in reality every eight weeks an additional day off is given to the member, reducing the average to 48 hours, which is six more hours than the current schedule. Another option that is not articulated is the fact that 42 hours is the basis for salary and 14 hours of overtime is automatic weekly. Areas in the west, where wildfires, earthquakes and general expansion have produced newer buildings that must conform to the current fire codes, a significant fire protection advantage prevails.

To bring this into our situation, my concerns will be in productivity, customer service and loyalty.

Fire Department staffing is a need, not a want, as documented by Kevin Wilson in the attached paper. The unofficial motto of the fire service has been to do more with less. When the public calls for help, we respond, but when a fire fighter calls for help, who responds? Certainly this rhetoric of cost saving is based on speculation, as I have not seen accurate documentation to support the alleged savings. OSHA CFR 29.1910.134(g)(4)(1-3) states "In the initial stages of an incident with only one crew operating in a hazardous area at a working structure fire, a minimum of four individuals shall be required." See attached paper for full context. The current staffing, established frugally over the many years as the town grew, has been functioning out of the rules by need and understanding. The courts and labor boards have ruled that staffing levels are reasonable for the protection of the public and fire personnel.

To take this issue to the members at this infancy of our department will provoke mistrust and jeopardize a harmonious work environment necessary for continued growth of service to an expanding town. The reasonable assessment that a private sector job is based on a 40 hour week justifies that we maintain a 42 hour week for the employees we are responsible for who protect our citizens. The employees are not slaves because their salaries are generated from tax dollars. The Wilson paper brings to focus many of the issues being falsely alleged, and counters with fact and studies.

My research and conclusion regarding the facts:

Work schedule must be negotiated (the allegation that it is a managed right is not found to be justified)

Adding sixteen hours of work without compensation is an ill-conceived notion I will not support

The notion of forcing a change will undoubtedly produce legal action which the department cannot take on at this time

Mayor Lombardi, a staunch supporter, withdrew his chance during negotiations in 2015, to make the change; obviously no significant savings could be achieved

Much controversy is being generated by a single law firm looking to profit by challenging the laws, creating havoc, and moving on.

The four platoon schedule is valid, workable and agreed to by the parties involved.

No factual testimony has been presented to support a major work schedule change.

In my opinion there is no basis to change from the current established four platoon system.

Respectfully submitted,

Frank Matta

Attachments include research papers, NFPA 1710

Fire Engineering

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FIRE DEPARTMENT STAFFING: A NEED, NOT A WANT

08/01/2009

BY KEVIN "WILLY" WILSON

The saying "Do more with less" seems to have been the unofficial motto of the fire service for more than 200 years. The fire service has continued to be a very talented and resourceful group of individuals. No problem is too big or too small for us to solve; if for some reason we get stumped, we use our resources to find the answer. However, one serious dilemma we face regularly is acquiring adequate staffing to do our job safely and protect our community. When the public calls for our help, we run to their aid, but who will run to our aid when we need help?

We can call an additional alarm or rely more on mutual aid, but only if the companies are available. Will they be readily available when we need them? There will come a time when we will be able to do only so much before our resources are depleted. From fires to EMS calls and everything in between, no matter how you look at it, the fire service is the last line of defense when it comes to a community in an emergency situation. So the mentality of doing more with less is not appropriate in our job.

When fewer than four firefighters arrive on a fire scene, the first company is faced with a critical decision. Does it initiate an interior attack without adequate staffing and unnecessarily risk firefighters' safety, or does it delay the interior fire attack until additional resources arrive, causing further fire damage? Neither response is appropriate.

The U.S. Occupational Safety and Health Administration (OSHA) two-in/two-out rule (CFR 29 1910.134(g)(4)1-3) is also cited in National Fire Protection Association (NFPA) 1500, *Standard on Fire Service Occupational Safety and Health Program*, 2007 edition, and in

NFPA 1410, *Standard on Training for Initial Emergency Scene Operations*, 2005 edition.

The 2007 edition of NFPA 1500, page 24, section 8.5.7, states: "In the initial stages of an incident where only one crew is operating in the hazardous area at a working structure fire, a minimum of four individuals shall be required, consisting of two individuals working as a crew in the hazardous area and two individuals present outside this hazardous area available for assistance or rescue at emergency operations where entry into the danger area is required."

Section 8.5.8 states: "The standby members shall be responsible for maintaining a constant awareness of the number and identity of members operating in the hazardous area, their location and function, and time of entry."

Section 8.5.9 states: "The standby members shall remain in radio, visual, voice, or signal line communication with the crew."

The NFPA and the National Institute for Occupational Safety and Health (NIOSH) have reported that fire departments across the nation lack adequate staffing, which has contributed to millions of dollars in time-lost injuries, thousands of on-the-job injuries, and dozens of line-of-duty deaths (LODDs) each year. Unfortunately, several firefighters will pay with their lives before the staffing issue will be brought up again for serious discussion.

In 1990, the Providence (RI) Fire Department conducted a study that showed that the only nationally recognized staffing standard at that time was from the NFPA.¹ It recommended a minimum of four firefighters responding on or with each apparatus. The NFPA reported at that time a 71-percent decrease in time lost because of injury using four-person staffing when compared with three-person staffing. Even though the study is more than 18 years old, it shows that the staffing level today throughout the United States is an issue that still has not been resolved.

Labor boards and at least one court have found that a minimum staffing agreement or ordinance is reasonable for ensuring the protection of the public and personnel. However, many fire departments in the past made no provisions in their staffing rosters for covering scheduled absences; fire companies were allowed to run shorthanded, seriously compromising their operating efficiency and firefighter safety.²

My hope is that the information presented in this article will enable fire service members, community members, and government officials to better understand why adequate fire

service staffing is a need, not a want.

WHY MORE STAFFING?

Residential and business communities continue to grow at a rate that makes it impossible for many departments to serve those additional needs. We cannot continue to do more with less. We need enough firefighters to do the job in a safe and appropriate manner.

NFPA President James Shannon cited in testimony before the U.S. House of Representatives that fire departments have insufficient staffing on responding fire apparatus to safely and effectively fight a fire inside a building in accordance with NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2004 edition, and NFPA 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*, 2004 edition.³ He pointed out also that at least 65 percent of our nation's cities and towns don't have enough fire stations to meet the widely recognized Insurance Services Office (ISO) response time guidelines. Shannon told the representatives that that was the reason he supports the Staffing for Adequate Fire and Emergency Response (SAFER) Act of 2003. Information on SAFER is at www.firegrantsupport.com/.

MINIMAL RECOMMENDED STAFFING LEVELS

Following are minimal staffing levels recommended by standards and fire service and related organizations.

NFPA recommendations are based on data from actual fires and in-depth fire simulations wherein fire company effectiveness was critically and objectively evaluated. These studies indicate significant reductions in performance and safety when crews responded with fewer members than recommended.

- **NFPA 450**, *Guide for Emergency Medical Services and Systems*, 2009 edition, Chapter 5, Section 5.5.2.3.4: "Most experts agree that four responders [at least two trained in advanced cardiac life support (ACLS) and two trained in basic life support (BLS)] are the minimum required to provide ACLS to cardiac arrest victims." As a side note, a medical call requires just as many personnel as, if not more than, a fire call, so if we can meet the medical need, why can't we meet the fire need?
- **NFPA 1710**: Four on-duty personnel for fire companies whose primary functions are to pump and deliver water and perform basic firefighting at fires, including search and

rescue.

Five or six on-duty members in jurisdictions with tactical hazards, high-hazard occupancies, high-incident frequencies, geographical restrictions, or other pertinent factors as identified by the authority having jurisdiction (AHJ).

Four on-duty personnel for fire companies whose primary functions are to perform the variety of services associated with truck work, such as forcible entry, ventilation, search and rescue, aerial operations for water delivery and rescue, utility control, illumination, overhaul, and salvage work—ladder or truck companies. Five or six on-duty personnel for these companies in jurisdictions with tactical hazards, high-hazard occupancies, high-incident frequencies, geographical restrictions, or other pertinent factors as identified by the AHJ.

For ALS emergency responses: two members trained at the emergency medical technician-paramedic level and two members trained at the emergency medical technician-basic level arriving on-scene within the established response time.

•**NFPA 1720**(volunteer departments): “The fire department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively Upon assembling the necessary resources at the emergency scene, the fire department should have the capability to safely commence an initial attack within two minutes 90 percent of the time.”

The complete NFPA 1710 and 1720, 2004 edition, standards are at nfpa.org/categoryList.asp?categoryID=999&itemID=24345&cookie%5Ftest=1/.

•**NFPA Fire Protection Handbook, 19th edition (2003):**

Fire department emergency medical service transports need additional personnel to maintain basic fire company strength. Some smaller communities may have a relevantly high staffing ratio per population protected because of the need for sufficient on-duty personnel for effective initial attack and rescue operations. A fire department in a large city may operate one engine company per 15,000 to 20,000 population and still have a large number of well-distributed fire companies, whereas two engine companies cannot properly protect a city of 30,000.

In general, each engine company should have a minimum of four firefighters on duty.

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including an officer. It would seem inappropriate to dispatch an engine company to a fire if the crew could not start firefighting and rescue operations because of safety concerns.

An increasing number of fire departments, in recent years, have established minimum staffing levels for each fire company or each duty shift. Many fire departments have established policies that state engine or ladder companies will not operate with fewer than four firefighters, including an officer, on duty. In rare cases, the minimum is five persons on duty per company because of the workload and the population and values protected per company.
(2)

- **NFPA Fire Protection Handbook, 20th edition (2008)⁴**: recommends the following minimum numbers of firefighters/officers to do the job safely. If this sounds like a lot, keep in mind that firefighters will always work in pairs, if not more, to complete the several tasks to get the job done as safely as possible. This includes such tasks as water supply, search and rescue, ventilation, rapid intervention, and so on.

Between 19 and 23 personnel typically constitute the first-alarm assignment to a confirmed single-family dwelling fire, as observed by evaluation teams.

Not fewer than 24 firefighters and two chief officers, one or more safety officers, and a rapid intervention team(s) should respond to high-hazard occupancies (schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-life hazard or occupancies with large fire potential).

Not fewer than 16 firefighters, one chief officer, a safety officer, and a rapid intervention team should respond to medium-hazard occupancies (apartments, offices, mercantile, and industrial occupancies not normally requiring extensive rescue or firefighting forces).

Not fewer than 14 firefighters, one chief officer, a safety officer, and a rapid intervention team should respond to low-hazard occupancies (one-, two-, or three-family dwellings and scattered small businesses and industrial occupancies).

At least 12 firefighters, one chief officer, a safety officer, and a rapid intervention team shall respond to rural alarms (scattered dwellings, small businesses, and a farm building).

- **U.S. Fire Administration (USFA)**: recommends that a minimum of four firefighters respond on or with each apparatus.⁵

- **The International Association of Fire Chiefs (IAFC):** advocates a minimum of five persons on engine and ladder companies. Noting that the reduction of members per unit and that the number of units has reached dangerously low levels, the IAFC says it would be "inappropriate" to accept or support further reductions.⁶

- **The International City Management Association (ICMA):** states in "Managing Fire Services" that at least four and often eight or more firefighters, each under the supervision of an officer, "should respond to fire suppression operations." Further, it says, "If about 16 trained firefighters are not operating at the scene of a working fire within the critical time period, then dollar loss and injuries are significantly increased, as is fire spread." It has found five-person companies 100-percent effective, four-person companies 65-percent effective, and three-person companies 38-percent effective.⁷

- **National Institute for Occupational Safety and Health (NIOSH) LODD Reports:** almost every NIOSH LODD report recommends to "provide adequate firefighter staffing to ensure safe operating conditions."

- **The International Association of Fire Fighters (IAFF):** views inadequate staffing and crew size as contributing factors to LODDs and advocates maintaining adequate staffing as proposed in NFPA 1500, NFPA 1710, and NFPA 1720; the NFPA *Fire Protection Handbook*, 18th edition (1997), Section 10/Chapter 1 (1-34); and OSHA 29 CFR 1910.134 (two-in/two-out).⁸

CONSEQUENCES OF INADEQUATE STAFFING

Fireground effectiveness may be compromised when staffing falls below four firefighters per company. Tests conducted with the Houston (TX) Fire Department indicated that staffing below a crew size of four can overtax the operating force and lead to higher losses. Jurisdictions with minimum staffing levels may have to take units out of service if they do not have the funds to support the additional personnel overtime. (2)

The District Chiefs' Technical Advisory Committee (DCTAC) conducted a study of the Houston Fire Department, which determined that fire apparatus staffing is an even greater citizen safety issue than a firefighter safety matter.⁹ The report termed the understaffing situation a "crisis situation that demands immediate intervention." Decreasing the number of firefighters without eliminating any of the tasks fire

departments are to accomplish causes the department to delay some of the required tasks or to try to perform all tasks unsafely with inadequate staff, according to the study.

The study also noted the following:

- "Firefighters working in understaffed environments are too often expected to perform beyond their capabilities."
- Inadequate staffing creates "a cumulative effect" caused by combined delays and lost functions of crews, resulting "in an even greater loss of overall effectiveness."
- Understaffing increases physiological stress on firefighters, as they try to compensate.

Another effect of understaffing is that "fire companies with serious staff reduction generally are limited to using small hose streams until additional help arrives, which may adversely affect containment of even a small fire and conducting effective rescue operations." (4)

Over the past three decades, fire department response has expanded to include emergency medical services, terrorism response, hazardous materials response and mitigation, natural disaster response, specialized rescue, and responses to other community needs. Fire departments need adequate firefighting resources to be able to design an acceptable level of resource deployment based on risks and service commitment and to continually evaluate emergency response systems, which are crucial to enhancing firefighter operational safety and occupational health and reducing civilian fire fatalities.¹⁰

In 2000, Detroit, Michigan, fire officials reorganized the city's fire department and sought to resolve problems, including a shortage of firefighters. At least 21 people had died during the preceding four years when fire trucks sent to their rescue didn't work or the closest stations were temporarily closed. Their daily staffing average was well below the number needed to meet the minimum national standard of four firefighters on each truck. Staffing levels were a key element in two 1998 fires in which three children died; the fire companies nearest to those fires had been closed because of firefighter shortfalls.

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The fire department was forced to close fire companies on 61 days that year because of low staffing."¹¹ As of May 2009, the *Detroit News* reported that nearly 300 layoffs would occur in the city government and that nearly 500 positions that were then open would not be filled. The article explained: "This is not the final step in the budget process, but a very significant step toward final approval. It will be interesting to see how many positions in the fire department will be lost or not filled. The Detroit Fire Department has been extremely busy with arson fires and abandoned building fires over the past several months."

Almost nine years later, staffing issues are still unchanged. These stories are those we would like to see changed for the better, not the worse. At this rate, the trend will dig even lower when rock bottom is reached.

ACTIONS YOU CAN TAKE

- When responding with an engine with only three persons on duty and on ladder trucks with only two persons, promptly back up such low levels of staffing with off-shift or call personnel or by multiple-alarm response to ensure adequate coverage. (2)
- Apply for a SAFER grant and other grants that can be used to fund additional staffing.
- Continually inform the community (citizens, fire chief, city council, and so on) of your concerns for civilian and firefighter safety that you are sworn to protect, so when a levy or bond is up for vote, you have a better chance of its passing. Provide them with the facts.
- Use new technology. Staffing software and hardware can help with staffing problems. The Vista (CA) Fire Department stated in its 2006 annual report that it had entered into an agreement with a software development corporation for hardware, software, and support for a system that automates daily workforce staffing solutions to improve productivity, reduce the number of personnel needed to manage scheduling activities, and improve management's ability to make and report on scheduling decisions.¹²
- Use automatic and mutual aid. Work with your neighboring fire departments.
- Search online. Search various search engines with key phrases such as "fire department staffing solutions" and "staffing solution within the fire service."

• **Read articles/books.** The "Advanced Fire Administration" student handbook, a

joint project of the Federal Emergency Management Agency, the USFA, and the National Fire Academy, offers suggestions for using creativity in establishing staffing plans, including "flattening the organization power base with a strong executive team and strong field-level staffing" by eliminating mid-level management positions in favor of direct delivery of services.¹³

- Research magazine articles. A roundtable on budget cuts, for example, relates how other fire departments have responded to staffing issues.¹⁴ Another article describes how the first-arriving engine company fulfills the primary tasks of the initial attack. Even though this does not directly relate to resolving staffing issues, it may help you to be more prepared and resourceful.¹⁵ Still another article explains how to manage a fire scene with limited staffing; lessons learned are included.¹⁶
- Look to the standards. NFPA 1500, 2002 edition, A.8.4.11, presented the following examples of how a fire department could deploy a team of four members initially at the scene of a structure fire, regardless of how the team members are assembled:
 1. The team leader and one firefighter could advance a firefighting hoseline into the immediately dangerous to life and health (IDLH) atmosphere, and one firefighter and the pump operator become the standby members.
 2. The team leader could designate the pump operator to be incident commander. The team leader and one firefighter enter the IDLH atmosphere, and one firefighter and the pump operator remain outside as the standby members.
 3. Two firefighters could advance the hoseline in the IDLH atmosphere, and the team leader and pump operator remain outside as standby members.
- Train. Attend Strategy and Tactics for Initial Company Officers (STICO) classes locally or at the National Fire Academy. Have your department do hands-on training evolutions to determine what works and what does not work. You won't know if a drill will go according to plan until after it has taken place. Never give up; keep trying.

...

I was taught early in my military career that if there is a problem, I should help to find the solution. The above information is presented to help resolve some of the staffing

problems but not all of them. No one has all the answers. It may not be easy, but we have the resources, grants, and facts to aid us in this journey. It may take a little work and creative thinking, but I am confident that the solutions are there. We cannot continue to ask our fire departments to protect our communities with inadequate resources. We will continue to see the number of injuries and fatalities of firefighters and civilians increase in future years until we get the staffing we need, not just want.

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KEVIN "WILLY" WILSON is a firefighter/paramedic with Camas (WA) Fire & Rescue. His 14-plus years of firefighting experience include having served as a volunteer firefighter in Gladstone, Oregon, and with the Independent Hose Company in Frederick, Maryland; as a U.S. Navy shipboard firefighter (Damage Controlman) in Norfolk, Virginia, from 1993-1997; and as a U.S. Navy fire marshal/paramedic, Naval Support Facility Fire Department, in Maryland. He has been doing extensive firefighter safety research since 2002 and is a firefighter safety survival instructor for Clark County, Washington. He is a hazmat technician and ICC fire inspector I and II and is completing requirements for a B.S. in fire service administration through Western Oregon University.

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FIRE OPERATIONS

Basis for the four person minimum

The NFPA Technical Committee that produced NFPA 1710 reviewed numerous studies, evaluations, and reports containing empirical data on departmental response and fire mitigation. These studies clearly demonstrate that for safe, effective and efficient fire suppression *The activities involved in controlling and extinguishing fires.* and rescue operations, each responding company *A group of members: (1) Under the direct supervision of an officer; (2) Trained and equipped to perform assigned tasks; (3) Usually organized and identified as engine companies, ladder companies, rescue companies, squad companies, or multi-functional companies; (4) Operating with one piece of fire apparatus (engine, ladder truck, elevating platform, quint, rescue, squad, ambulance) except where multiple apparatus are assigned that are dispatched and arrive together, continuously operate together, and are managed by a single company officer; (5) arriving at the incident scene on fire apparatus.* needs a minimum of four fire fighters.

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Updated: 4/30/03

Firefighters' Kelly Days make for complicated budgeting

CALEB SOPTLEAN/Daily Inter Lake | Posted: Friday, April 15, 2011 2:00 am

Kelly Days are complicated. That's the word from Kalispell Fire Chief Dan Diehl.

Diehl recently returned from vacation to find the city embroiled in a dispute with its firefighters over pay and layoffs, and one of the factors involved is Kelly Days — a term in common usage among fire departments across the country.

In short, a Kelly Day is a day off given to firefighters to bring the work week down to the negotiated number of hours. Without the Kelly Days, overtime would have to be paid to firefighters because of their unusually long shifts and complicated schedules.

And Diehl said the schedule used by Kalispell firefighters is the most complicated of the three he has experienced.

The city started using its current three-platoon schedule in 2005 as a compromise. That schedule incorporates Kelly Days. Prior to 2005, the city had four firefighter platoons and didn't use Kelly Days.

Currently, two platoons work nine shifts every 28-day pay period. One platoon works 10 shifts per pay period. Each firefighter on the 10-shift platoon is entitled to 10 Kelly Days per year, which amounts to 10 days off without pay. Kelly Days are not mandatory, however.

Each shift consists of a 24-hour work day followed by two days off. There are 13 pay periods in one year, which is based on 364 days in the firefighter schedule.

Diehl explained that the city's firefighters work more hours than most other fire departments in the state — including Missoula, Helena and Bozeman — because of the three-platoon schedule. Most other fire departments use a four-platoon schedule, he said.

Kelly Days — but not Kelly Work Back Days — are incorporated into the contract and budget, Diehl said. Kelly Work Back Days occur when a firefighter works on someone else's Kelly Day. Kelly Work Back Days are not accounted for in the budget, he said.

City Manager Jane Howington explained that firefighters are scheduled to work 2,834 hours a year in the current budget.

In Fiscal Year 2010, the city budgeted 2,764 hours per year for each firefighter, but firefighters actually worked an average of 2,810 hours.

That resulted in the Fire Department Fund going into deficit, which is something the city doesn't want to happen this year. Hence the reason for using the 2,834-hour figure, which represents the

maximum number of hours each firefighter can work.

Diehl explained that prior to 2005, Kalispell's firefighters worked 2,184 hours per year on the four-platoon schedule. That included a 24-hour shift followed by 72 hours off. They currently work 24 hours followed by 48 hours off.

Three firefighters were hired some seven months ago with a grant from the Federal Emergency Management Agency. If the city lays off any firefighters during the period of the grant, Howington said the city is obligated to give that money back.

Howington recently found out there is a possibility of keeping half of the money, however.

"So many communities had to give it back" that FEMA started issuing waivers, she said. "We need to apply [for a waiver] and it should be approved."

The city already has received half of the grant money for the firefighters — it received the first check last week — and likely wouldn't have to give that amount back if it lays off firefighters, which it plans to do on May 15. The city wouldn't receive the second half of the grant, however.

Reporter Caleb Soptelean may be reached at 758-4483 or by email at csoptelean@dailyinterlake.com.

**THE IMPACT OF INADEQUATE STAFFING ON INITIAL FIRE ATTACK AT
PITTSFIELD TOWNSHIP FIRE DEPARTMENT**

Sean Gleason
Pittsfield Township Fire Department
Ann Arbor, MI

An applied research project submitted to the Department of Interdisciplinary Technology as part
of the School of Fire Staff and Command Program

August 2002

ABSTRACT

Currently the Pittsfield Township Fire Department has three stations that respond to emergency calls within its borders. Two of these stations have a staffing level of one, while the other station's minimum is two. These levels are well below the industry standard and the recommendations of the NFPA (National Fire Protection Association). In order to increase safety and provide better, more efficient services for our customers, Pittsfield Township must increase its minimum staffing.

This paper and its base of research, obtained through the use of documented studies and literature, support the increase of the minimum staffing level of all three stations to a safe and efficient level as recognized by the fire service and NFPA. Practical tests have also been completed to show the difference in efficiency and safety of different staffing levels. This will not only benefit our customers but will also provide a safe working environment for the members of the fire department.

This project and its research supports the initial thesis that the increase in staffing levels will improve efficiency and provide a safer township for people to work in, live in, and to visit. If staffing levels are not brought up to industry standards, it is only a matter of time until a serious accident happens, an accident which can be avoided.

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INTRODUCTION

Pittsfield Township would be a much safer place to work, live, and visit if fire department staffing levels were brought up to a safe level. The current staffing levels are low by industry standards and are inviting of accidents, injuries, and inefficiency.

Pittsfield Township has been growing rapidly over the last fifteen years and the fire department staffing levels have not kept up with the additional demands placed on fire-rescue services. It is only by virtue of luck that there has not been a serious accident or injury as a result of the current staffing levels.

When a fire station is dispatched on a fire run, there are a number of tasks that need to be completed in an expedient manner before and after arrival at the scene. Such tasks include but are not limited to: looking up address and routing in the map book, looking up the location in the pre-incident survey book, driving the apparatus, operating the siren, operating the radio, dressing the hydrant, forward or reverse hose lays, scene size-up, connecting supply line, stretching and charging attack lines, apparatus placement, self contained breathing apparatus (SCBA) donning, search and rescue, fire suppression, etc. Each task is vitally important to the fire fighters and the people in need of our services. If these tasks are not completed in a short amount of time, lives and property will suffer.

Another safety concern is the fact that at two of the three Pittsfield fire stations, one person may be working by himself. This occurs approximately 32% of the time, and there is no mechanism in place to correct this.

With the tragic events of 9/11, we are more aware than ever of the awesome responsibilities of the fire fighter of today. As New York Fire Chief Joseph Pfeifer, (2002) the first fire chief to arrive at the World Trade Center on September 11, 2001 - in under four minutes - has pointed out:

You don't run into a burning building if you don't believe that your essence is being a fire fighter, if you don't believe you can make a real difference in someone's life. But we can't always run toward everything. We did as much as we could that day. We knew what was happening. But what we didn't know was that a high-rise building could collapse. The concept wasn't part of our language, our procedures.

Today, I'm working with a team to help make fire departments safer. Fire fighters will always be the first responders no matter what acts of terrorism are wreaked upon Americans, so we are trying to figure out how to make that response safer and still save lives (p. 68).

The question must be asked--can we do less in our own communities? Can we do less in Pittsfield Township? The safety and efficiency of our fire department personnel and our citizens should be paramount in the planning of our goals, budgets and civic resolutions. Adequate staffing of fire departments is a crucial component in achieving success in fire attack and search and rescue efforts.

BACKGROUND AND SIGNIFICANCE

The Pittsfield Township Fire Department was established in 1948 and currently employs 53 professionals: 1 Fire Marshal who is in charge of fire operations, 1 Training Officer/Asst. Fire

Marshal, 3 Lieutenants, 6 Sergeants, 3 Full-Time Fire Fighters and 39 Paid-on-Call Fire Fighters. Daily on-duty staff consists of one Lieutenant, two Sergeants, and one Full-Time Fire Fighter out of three stations. Stations One and Two respond with only one person, and Station Three responds with two.

Calls for service, such as emergency medical responses, car accidents, vehicle fires, small outside fires and similar incidents, are handled with the response of Station Three and Station One or Two (whichever is closer). Structure fires, vehicle extrications, aircraft emergencies and similar incidents are dispatched for response from all three stations, as well as the paid-on-call staff.

The average response time of the first arriving apparatus is 4.4 minutes, the second arriving apparatus is 9.4 minutes, and the third arriving apparatus is 11.3 minutes (Pittsfield Township Fire Department June 2002 Monthly Report). The busiest fire station is Station Two, and it is very common for that station (with one person) to arrive on an emergency incident and be alone for an average of 4.2 minutes until the second arriving apparatus is on the scene.

In the larger incidents when paid-on-call personnel are activated, the response is inconsistent and varies with the time of day. A major drawback of paid-on-call fire fighter response is that most of the staff in this category, work other daytime jobs Monday through Friday, which limits their response. There also is no guarantee how many paid-on-call fire fighters will respond to an emergency, sometimes none. Another drawback to paid-on-call response is the issue of experience and training. Pittsfield Township Fire Department has an annual turnover rate of 45% (Pittsfield Township Payroll Records) for paid-on-call fire fighters, which limits their ability to become well trained and experienced. Currently, the average amount of on-the-job experience for a paid-on-call fire fighter at Pittsfield is 2.6 years.

Paid-on-call fire fighters are encouraged to work 12 hour training shifts (stand-by shifts) at Station One or Two, but these shifts are commonly vacant. Stand-by shifts accommodate one fire fighter at a time and are used to train and familiarize fire fighters with all areas of the fire service. There is no requirement that these shifts be filled, so this is not viewed as part of daily manpower.

There have been multiple situations in the past ten years when a fire truck with only one fire fighter has arrived on a working structure fire and that person was alone for 4-5 minutes (Pittsfield Township Records Bureau). In these situations, fire fighters were faced with an unmanageable amount of tasks that needed to be completed immediately, putting lives at risk. Between 1995 and 1999 there were three incidents at Pittsfield Fire Department where fire fighters slipped and fell off fire apparatus and were injured. Fortunately, in those cases, there were other fire fighters around to assist. If those fire fighters were working alone at the time, they may not have been found until the next day.

Current fire department staffing at Pittsfield Fire Department is a major safety concern, both for the fire fighters and the citizens. Continuing to operate the fire department with its current staffing levels is an invitation to excessive property loss, serious injury, or even death.

Many of the statistics relating to Pittsfield Township Fire Department were obtained from the Pittsfield Township Records Bureau and the fire department monthly reports.

LITERATURE REVIEW

Because of the fact that inadequate staffing is an issue at many fire departments across the country, there is a wealth of information available on the subject, such as videos, news

articles, documented studies, and other term papers. All of these were helpful in researching this thesis, and they offered different perspectives on this sensitive subject.

The International Association of Fire Fighters (IAFF) produced a video "Staffing For Survival," which touched on some very important statistics and studies. In this video, several key statistics from an independent staffing study done by the International City Management Association (ICMA) were highlighted. This study concluded that a five-person fire engine crew is 100% effective, a four-person crew is 65% effective, and a three-person crew is only 38% effective. According to these statistics, Pittsfield Fire Department is operating well below ICMA recommendations.

The National Fire Protection Association (NFPA) developed another useful document, NFPA 1710 (Standard for the Organization and Deployment of Fire Suppression Operations). This standard covers all areas of fire suppression, including the personnel needed to do the job safely. Listed in this standard are the tasks that need to be completed during fire suppression, and the amount of personnel it takes to complete each task safely and effectively. NFPA standards are followed in many jurisdictions and may be used in litigation should investigations arise from complications or errors in emergency response.

Overall, the total literature review confirmed the fact that inadequate staffing has a great impact on initial fire attack and rescue. The sum conclusion of the video and NFPA document, along with numerous other articles and papers used in the research of this paper, was that a staffing level of less than four fire fighters is dangerous and ineffective.

PROCEDURES

Conclusions of this project were initially derived through research obtained from various periodicals, books, articles, independent studies, and personal experience.

To verify and solidify the research findings, a live fire training staffing study was performed at Pittsfield Township Fire Department to show the discrepancies, if any, in the effectiveness of different sized fire crews on initial fire attack. The study was conducted by utilizing a consistent scenario and implementing four different sized crews to complete seven common tasks related to the primary fire service objectives.

Scenario: Two story, wood frame, single family dwelling of approximately 1800 square feet. Fire was set in furniture in a furnished upstairs bedroom and allowed to burn without interference. A smoke detector was placed on the ceiling of the upstairs hallway approximately eight feet from the fire room. Dispatch information included a report of a house fire with confirmation of a person trapped.

Parameters of the study:

- Fire was started.
- When smoke alarm sounded, a thirty- second delay was implemented to simulate a call to 911.
- An additional thirty- second delay was implemented to simulate scramble time.
- A four minute and forty second delay was added to simulate average response time.
- Crews exited fire truck and began their tasks.

Study Tasks:

- Scene size-up
- Pull attack line.
- Charge attack line.
- Forcible entry.
- Advance attack line to fire.
- Extinguish fire.
- Search and rescue.

Note: It was not necessary to complete tasks in a specific order; fire fighters were allowed/encouraged to use their own discretion as long as all seven tasks were completed.

Study Focus:

Focus is on timing of above tasks to demonstrate relation of staffing to safe and efficient fire attack.

Limitations:

The available information used in this research did not necessarily come from fire departments with the same type of staffing structure; that is combination fire department versus full paid staff.

The possibility of bias exists in documents and studies prepared by other fire departments or fire department labor unions. Though these studies were completed using factual statistics and actual experiences, bias cannot be ruled out.

Fire study limitations include a familiarity with the scene, with the problem being presented and with the efforts of the study, and could allow for some pre-assessment and preparation. Prior knowledge of the situation could impact the timing results of the study

Definitions:

Combination Fire Department--A fire department that is staffed with both full paid staff and paid-on-call fire fighters.

Paid-on-call fire fighter: A fire fighter who is on call and receives compensation for emergency incidents and training.

RESULTS

A compilation of a significant literature review and a real life study conducted in the field combine to support the premise of this paper: **It is important to provide appropriate levels of staffing on initial fire attack in order to effectively and safely complete the primary fire service objectives--Life Safety, Incident Stabilization and Property Conservation.**

The independent study within Pittsfield Township was completed on August 5, 2002 to demonstrate the effects of various levels of staffing on the timing and efficiency of task completion during initial fire attack.

Pittsfield Fire Department Staffing Study:

This study was conducted at a training burn in Pittsfield Township using a predetermined scenario and four different sized crews. Each crew completed seven defined tasks and the time for completion of each task was recorded. The completion times of the required tasks are outlined in the table below:

Timing of Task Completion:

Tasks	Crew of 1*	Crew of 2*	Crew of 3*	Crew of 4*
Scene Size-Up	1 min 30 sec	1 min	25 sec	20 sec
Pull Attack Line	2 min 41 sec	1 min 30 sec	1 min 40 sec	30 sec
Charge Line	3 min 35 sec	2 min 10 sec	1 min 50 sec	59 sec
Forcible Entry	4 min	2 min 10 sec	40 sec	32 sec
Advance Line to Fire	4 min 38 sec	2 min 35 sec	2 min 10 sec	46 sec
Extinguish Fire	4 min 45 sec	2 min 40 sec	2 min 15 sec	1 min 21 sec
Search and Rescue	6 min 40 sec	3 min 10 sec	2 min 16 sec	1 min 40 sec
Total Completion Time	6 min 40 sec	3 min 10 sec	2 min 16 sec	1 min 40 sec

*Number of Fire Fighters on crew

Timing started when the respective crew exited the apparatus and began their tasks. A stopwatch was used to track the completion time of each task and was then recorded in the table above. It is important to note: all four fires were of approximately the same size with the same smoke condition, the same equipment was used each time, and a constant water supply was already initiated with large diameter supply hose. Safety personnel were positioned throughout the structure with a charged hose line in case of an emergency.

After completion of the tasks, the one and two man crews were physically exhausted and it was questionable whether they would be able to perform a rescue if a victim was located.

Another concern identified was that if a fire fighter were to be injured or incapacitated during this type of operation with a one or two man crew, the rescue effort would be seriously delayed due to lack of manpower. There is an obvious increased risk to the fire fighter when an interior fire attack is undertaken without the support necessary to complete it. Additionally, the one and two man crews noted that they experienced a burden of stress and urgency while trying to cope with the lower staffing levels.

With the three and four man crews, all interior tasks were completed with a minimum of two fire fighters, leaving no one alone in the structure. The fact that multiple tasks could be accomplished simultaneously decreased the completion time, thereby lessening property damage and increasing the chance for victim survival.

The results of this study clearly indicate that the larger the crew, the more quickly and efficiently these tasks can be completed. According to NFPA 1710 (2001).

- The fire department's fire suppression resources shall be deployed to provide for the arrival of an engine company within a 4-minute response time and/or the initial full alarm assignment within an 8-minute response time to 90 percent of the incidents.
- Personnel assigned to the initial arriving company shall have the capability to implement an initial rapid intervention crew (IRIC).
- The initial full alarm assignment shall provide for the following:
 - Establishment of incident command outside of the hazard area for the overall coordination and direction of the initial full alarm assignment. A minimum of one individual shall be dedicated to this task.

- Establishment of an uninterrupted water supply of a minimum 1480 L/min (400 gpm) for 30 minutes. Supply lines shall be maintained by an operator who shall ensure uninterrupted water flow application.
- Establishment of an effective water flow application rate of 1110 L/min (300 gpm) from two handlines, each of which shall have a minimum of 370 L/min (100 gpm). Attack and backup lines shall be operated by a minimum of two personnel each to effectively and safely maintain the line.
- Provision of one support person for each attack and backup line deployed to provide hydrant hookup and assist in line lays, utility control, and forcible entry.
- A minimum of one victim search and rescue team shall be part of the initial full alarm assignment. Each search and rescue team shall consist of a minimum of two people.
- A minimum of one ventilation team shall be part of the initial full alarm assignment. Each ventilation team shall consist of a minimum of two people.
- If an aerial device is used in operations, one person shall function as an aerial operator who shall maintain primary control of the aerial device at all times.
- Establishment of an IRIC that shall consist of a minimum of two properly trained and equipped personnel (p. 14 -- 15).

This standard suggests that 15 fire fighters (four or more per company) are needed within the first eight minutes to adequately and safely handle a fire in a residential structure. This staffing level is rarely, if ever, met at Pittsfield Township. The importance of aggressive fire attack and search and rescue are paramount in the minds of fire fighters and civilians alike. The

NFPA concluded: (July 2001 NFPA 1710) "rapid and aggressive interior attack can substantially reduce the human and property losses associated with structural fires." Without an adequate staffing level, an aggressive interior fire attack is impossible.

Additional staffing studies from Seattle, Dallas, and Providence all agree that 15 fire fighters are needed for a residential structure fire (four or more per company). The other important fact that these studies point out is that there are consistently significant increases in injuries in understaffed fire departments. The IAFF (1992) found that fire departments with staffing of less than four fire fighters per company reported an injury rate one-third higher than those with four or more (p.10).

DISCUSSION

The issue of inadequate fire department staffing is not unique to Pittsfield Township; it is an everyday issue across the nation. In December of 1999, the Keokuk, Iowa Fire Department was beset with a tragedy that will forever change their lives. They responded with four fire fighters and two pieces of apparatus to a report of a house fire. They arrived to find heavy smoke coming from the structure and a hysterical mother advising that three of her children were still in the house. With other off-duty fire fighters responding to the scene, the first arriving personnel attempted search and rescue and fire attack operations. The end result of this incident was that the three missing children died along with three Keokuk fire fighters. The NFPA, which regularly investigates fire fighter line of duty deaths, concluded that one of the possible factors leading to the deaths of these fire fighters was inadequate staffing. Many people feel that if the

Keokuk Fire Department had adequate staffing, the three fallen fire fighters would still be here today. L. Slepicka (2000) noted:

According to Duval (NFPA investigator), insufficient resources are a very obvious factor in the incident. Four fire fighters arrived on the scene with two pieces of apparatus. One stayed with the hydrant for hookup a block from the fire. Two were setting up the apparatus. That left one to face the burning building and do all the other functions necessary.

The size of the department at the time, eighteen members and the chief, met their first form of aid was callbacks. The procedure was to call off-duty fire fighters and get them to respond. Duval was not critical of this plan as opposed to calling for mutual aid from a neighboring town. The nearest department, he said, would not have arrived sooner than the callbacks. Most of the Keokuk department reached the scene and they brought the fire under control.

The on-duty fire fighters were finishing with an MVA when the fire call came out and the normally available five fire fighters were four when one went to the hospital with the MVA victims. Also, the ambulance crew could not respond immediately to the fire.

The four initially on the scene were not enough to handle many of the important functions at this fire (p. 2 – 3).

In comparing Pittsfield Township's situation, the following are points for consideration:

- Pittsfield Fire Department daily staffing is at four vs. Keokuk staffing of five.
- The four Pittsfield firefighters respond in 3 trucks vs. the two trucks utilized by the Keokuk Fire Department.

- Both departments rely on similar callbacks for additional manpower. This situation provides no guarantee of when or how many firefighters will be able to respond.

A second example of a short staffing tragedy is relayed by Harry Carter, PhD (2002) in one of his monthly commentaries:

The latest chapter in the continuing saga of short staffing tragedies comes to us from the Commonwealth of Massachusetts. A tragedy in Ipswich back in January, took the lives of a mother and her two children. A third child was saved when her mother threw her out of the third floor window of their blazing home. What makes this story so heartbreaking is that the first unit that arrived at the fire was a hook and ladder truck, with a lone fire fighter on board.

I have reviewed the Boston Globe stories about this fire. In essence, they are a rehash of the facts that have surrounded numerous tragedies over the past few years. You cannot say with any certainty that a full, minimal complement of twelve fire fighters responding on two engine companies and a truck under a chief officer would have saved these people. But I can damn sure say that one guy, all by himself, was not enough, no matter how brave or valiant that man was.

How can any thinking person, city administrators or politicians alike, think that one man is an adequate response to anything? That poor guy that got there all by his lonesome will have to live the rest of his days bathed in the aura of that sad night's tragic events.

Any guilt he feels comes as a result of those penurious political people who think that one fire fighter is enough (p 2).

Sadly, this is often the case in Pittsfield Township. Both my fellow fire fighters and I have been the lone respondent to fire calls on numerous occasions. This results in anxiety and inefficient fire fighting as well as greatly compromising the safety of all involved - staff and citizens.

Unfortunately it seems to be primarily economics that dictate fire department staffing levels in most communities, rather than fire fighter safety or efficiency. In many cities and towns across the nation, politicians decide to spend their money on things such as new buildings, park land and other politically strategic expenditures, while continuing to ignore the issue of fire department staffing, hoping it will go away. However, this issue will not simply go away, but will continue to be a factor every time an understaffed fire department answers an alarm.

RECOMMENDATIONS

Based on research results, there are two recommendations that must be made in order to improve safety, response time and efficiency of the Pittsfield Township Fire Department.

Recommendation 1:

Increase minimum daily staffing in the Pittsfield Township Fire Department to one lieutenant and three fire fighters per station and one shift commander who oversees the entire shift.

Current staffing is one fire fighter per station per shift at two of the three stations. The remaining station is staffed with two fire fighters per shift. One of the four fire fighters also functions as the overall fire shift commander. The recommendation to increase staffing would

result in the addition of three lieutenants (nine internal promotions), twenty-four fire fighters, and elimination of the sergeant position.

Components necessary for increasing staffing will include: recruiting, training, placement and scheduling.

Additional dollars for this proposal at present salary levels would be approximately:

WAGES AND BENEFITS - 27 ADDITIONAL FIRE FIGHTERS:

Salary	\$751,336
FICA	72,080
Workers Comp	48,176
Health Care	148,096
Dental	18,376
Optical	1,590
Life Insurance	1,422
MERS	36,664
Holiday Pay	34,200
TOTAL	\$1,111,940

EQUIPMENT - 27 ADDITIONAL FIRE FIGHTERS:

Uniforms	\$16,470
Turnout Gear	64,800
Footwear	8,640
Electronics	10,260
TOTAL	\$100,170

TRAINING

Training Costs --Minimal due to current in house training program

TOTAL APPROXIMATE COSTS TO ADD 27 FIRE POSITIONS: \$1,212,110.

Recommendation 2:

Each station will respond to calls for service - such as emergency medical responses, car accidents, vehicle fires, small outside fires and similar incidents - within its own district. Structure fires, vehicle extrications, aircraft emergencies and similar incidents are dispatched for all three stations to respond, as well as the paid-on-call staff.

The advantages to this change include: decreased response time, decreased exposure to unnecessary traffic and mileage.

Follow-through on these recommendations is crucial to the safety and well being of the Pittsfield fire fighting personnel and the population of the entire township.

Imagine this: your home is on fire, all your meaningful possessions are inside and your family is at the upstairs window yelling for help... and one fire fighter arrives.

You are involved in a serious motor vehicle accident, your child is trapped inside the car, you have been thrown out of the car and are injured seriously enough that you can't get to your child and the car is on fire... one fire fighter arrives.

A small airplane crashes in your back field, the plane is on fire--and so is the field--there are two occupants in the plane screaming, the fire is nearing your home... and one fire fighter arrives.

The unfortunate reality to the problem of fire staffing is that most citizens assume that their municipal services are adequate for structure fires, emergency medical responses, car accidents, vehicle fires, small outside fires and similar incidents... until the fire happens to them. This paper shows the fallacy to that belief and provides an impetus to our civic officials to provide for responsible staffing of municipal fire stations.

As to general recommendations for others wishing to document and/or gather data to define their own staffing issues, there is a wealth of information available on the web and through the International Association of Fire Fighters. In addition, magazines like *Fire House*, *Fire Engineering* and *Fire Chief* can provide supportive material.

From a research study perspective, things that may enhance outcome statistics would include: adding additional tasks to be monitored during the study, to run more crews for each scenario as a comparison study, and to include different types of structures.

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Four-Person Staffing Facts

"Two in/Two Out Rule"

Requires that there must be two firefighters outside before two firefighters can make entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere.

- OSHA Standard,
- NFPA 1710

Fire Services Review 2005 (Independent Auditors hired by the City of Long Beach)

- "Four-person engine companies are recommended for Long Beach. Multiple company operations are frequent in Long Beach. LBFD needs a lot of resources (firefighters) to perform fire operations. The City also has high call volume and many fire or emergency risks. While some cities are good candidates for three-person staffing, Long Beach is not."

NIST (National Institute of Standards and Technology)

Report on Residential Fire Ground Field Experiments 4/2010

- The four-person crews completed the same number of fire ground tasks (on average) 5.1 minutes faster — nearly 25% faster — than the three-person crew.
- Additional 6% (13 seconds with 2nd engine less than 1 minute away) difference in the "water on fire time" between the three- and four-person crews.
- The four-person crew operating on a low-hazard structure fire can complete laddering and ventilation (for life safety and rescue) 25% faster than the three-person crew.
- NFPA 1710 requires 15-17 FFs on scene in 8 minutes. The three-person crews were unable to assemble enough personnel to meet this standard. Four-person response time was 5:02 minutes.

International City Managers Association (ICMA)

- In a report "Managing Fire Services" ICMA recommends 5 per engine for municipal fire administration.

International Association of Fire Chiefs (IAFC)

- IAFC's Metro Fire Chiefs' minimum staffing position reads: "In order to permit effective operation of fire companies at the scene of a structure fire, the minimum number of personnel on both engines and ladder companies should be 5 members per unit."

International Organization for Standardization (ISO)

- Insurance industry risk assessment calls for six-person response on initial fire attack (four firefighters plus two medics)

American Heart Association

- Policy calls for minimum of four responders to administer proper Advanced Cardiac Life Support (ACLS)

California Office of Emergency Services

- Statewide Mutual Aid Agreement mandates minimum four-person staffing on all mutual aid responses (such as wildfires, floods, earthquake, etc.)

American Insurance Association, "Fire Department Efficiency," Special Interest Bulletin No. 131, December 1975

- Bulletin prepared by the American Insurance Association on fire department efficiency. Emphasis is placed on the importance of staffing companies with a minimum of four personnel. The bulletin further states that if companies are staffed with two or three personnel, they cannot perform the required functions of either an engine or ladder company.

American Insurance Association, "Fire Department Manning," Special Interest Bulletin No. 319, December 1975

-Bulletin prepared by the American Insurance Association on fire department staffing levels. Emphasis is placed on the importance of staffing companies with a minimum of four personnel. The bulletin further states that four personnel do not represent an adequately staffed company. It concludes with a statement that progressive fire chiefs believe a company should never respond with fewer than five or six personnel.

Cushman, Jon, Seattle, WA Fire Department's "Abstract: Report to Executive Board, Minimum Manning as Health & Safety Issue, 1981.

-This study, performed by the Seattle Fire Department, analyzed the link between staffing and fire fighter injuries by reviewing the average severity of injuries suffered by engine companies of fewer than four fire fighters as compared to companies with four or more fire fighters. The study concluded that the average time per disability increased as company strength decreased for both types of companies. This analysis indicated that the rate of fire fighter injuries expressed as total hours of disability per hours of fireground exposure were 54% greater for engine companies staffed with three personnel when compared to those staffed with four fire fighters, while companies staffed with five personnel had an injury rate that was only one-third that associated with four-person companies.

Gerard, John C. and Jacobsen, A. Terry, "Reduced Staffing: At What Cost?," Fire Service Today, September 1981; pp. 15-21

-This study concluded that an aggressive early initial interior attack on a working structural fire results in greatly reduced loss of life and property damage. Given that the progression of a structural fire to the point of flashover generally occurs in less than 10 minutes, two of the most important elements in limiting the spread of fire are the quick arrival of sufficient numbers of personnel and equipment to attack and extinguish the fire as close to the point of its origin as possible.

International City Managers Association, Municipal Fire Administration (Chicago, IL:ICMA) 1967; pp. 161-162

-The ICMA concluded that there must be enough personnel to put fire apparatus into effective use. It determined that a minimum of five personnel are required for engine (pumper) companies, three personnel are needed to place a single line of 2 ½ -inch hose in service, and one additional person, plus a foreperson, is needed to operate a pump.

International Association of Fire Fighters, "Analysis of Fire Fighter Injuries and Minimum Staffing Per Piece of Apparatus in Cities With Populations of 150,000 or More," December 1991.

-This study was a comprehensive analysis of fire fighter injuries and minimum staffing levels in a number of cities. The study found that 69% of jurisdictions that maintained crew sizes of fewer than four fire fighters had fire fighter injury rates of 10 or more per 100 fire fighters, while only 38.3% of jurisdictions maintaining crew sizes of four or more fire fighters had comparable injury rates. In other words, jurisdictions having crew sizes of fewer than four fire fighters suffered a benchmark injury rate at nearly twice the percentage rate of jurisdictions that maintained crew sizes of four or more fire fighters.

Kimball, Warren Y., Manning for Fire Attack (Boston, MA: NFPA) 1969.

-This book thoroughly covers staffing of fire companies. In summary, effective fireground staffing was demonstrated to involve two fundamentals; first, carefully engineered equipment components designed to deliver specified fire extinguishing capacity under stated conditions and second, personnel assigned and used to deliver specified fire attack capabilities. In other words the fire firefighting capability of a fire department ultimately depends upon a complete systems approach and not a mere massing of random forces when an emergency occurs.

McManis Associates and John T. O'Hagan and Associates, "Dallas Fire Department Staffing Level Study," June 1984; pp. 1-2 & II-1 through II-7.

-The Dallas Study is a benchmark study of the link between crew size and fire suppression effectiveness. This study was performed as a series of controlled evolutions on a specified set of fire situations using different components in the range of four to six people. Significantly, the study found that "fatigue was a serious problem for smaller groups." Indeed, the author of a 1993 memorandum concluded that this finding was relevant because it highlights the link between staffing and fire fighter deaths and injuries.

Metro Chiefs/International Association of Fire Chiefs, "Metro Fire Chiefs-Minimum Staffing Position," May 1992.

-In 1992, the Metro Fire Chiefs Division of the ICHIEFS not only endorsed assembling at least four fire fighters before initiating an interior attack, but went a step further stating: In order to permit the effective operation of fire companies at the scene of a structure fire, the minimum number of personnel on both engine and ladder companies should be five members per unit. This firm position was taken by the Metro Fire Chiefs solely in the interest of the safety of both the citizens we serve and our nation's fire fighters.

Morrison, Richard C., "Manning Levels for Engine and Ladder Companies in Small Fire Departments," 1990.

-The conclusions reached in the Dallas study were confirmed for small fire departments by the Westerville, Ohio Fire Department. Using standard fire fighting tactics, the results of the Westerville Fire Department report showed that four fire fighters could perform rescue of potential victims 80% faster than a three fire fighter crew.

National Fire Academy, Executive Development Program III, "Fire Engines are Becoming Expensive Taxi Cabs: Inadequate Manning," February 1981; pp. 2 & 4.

-This NFA report summarizes a 1977 test conducted by the Dallas Fire Department which consisted of a simulated fire involving several rooms at the rear of the third floor of an old school. This simulation was conducted to determine how long it took a three, four, or five-person team to advance its line to this area and get water on the fire. Immediately following those tasks, each individual's physical condition was assessed. Timing began as each engine company entered the schoolyard. The average time for the engine companies to complete the tasks is revealing. The three-person team average was 18.8 minutes. All personnel were exhausted, rubber legged, had difficulty standing up and were unfit for further fire fighting. The four-person team, conducting the very same test, averaged 10.29 minutes and upon completion, were nearing exhaustion. The five-person team averaged 6.15 minutes, and showed little evidence of fatigue at the end of the exercise.

National Fire Protection Association, "Decision of the Standards Council on the Complaint of M.E. Hines, Texas Commission on Fire Protection, concerning a Formal Interpretation of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program," April 6, 1994.

-In 1993, the NFPA included in its NFPA 1500 Consensus Standard on Fire Department Occupational Safety and Health a requirement addressing the minimum number of fire fighters necessary to initiate an offensive interior attack on structural fire. This Tentative Interim Agreement (TIA) to the fire fighter safety standard states:

"At least four members shall be assembled before initiating interior fire fighting operations at a working structural fire."

Consequently, in 1994, Mr. M.E. Hines, Director of the Texas Commission on Fire Protection, sought formal clarification from the NFPA on this issue. NFPA's formal interpretation of how the four fire fighters should be assembled is as follows:

"...when a company is dispatched from a fire station together as a unit (which includes both personnel responding on or arriving with apparatus) rather than from various locations, the standard recommends that the company should contain a minimum of 4 fire fighters."

National Fire Protection Association, NFPA 1410 Training Standard on Initial Fire Attack, 2000.

-The NFPA 1410 Standard contains the minimum requirements for evaluating training for initial fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations. This standard specifies basic evolutions that can be adapted to local conditions and serves as a standard mechanism for the evaluation of minimum acceptable performance during training for initial fire suppression and rescue activities.

The following are pertinent excerpts from NFPA 1410:

3-2.2 *In addition to the requirements set forth in 3-2.1, the company officer shall ensure that the following are accomplished in interior structural fires: (1) At least two fire fighters enter the immediately dangerous to life and health (IDLH) atmosphere and remain in visual or voice contact with each other at all time. (2) At least two fire fighters are located outside the IDLH atmosphere. (3) All fire fighters engaged in interior structural fire fighting use SCBA.*

A-3-2.2 *One of the two individuals located outside the IDLH atmosphere could be assigned an additional role, such as incident commander in charge of the emergency, or safety officer, as long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any fire fighter working at the incident.*

Nevada Occupational Safety and Health Review Board, Administrator of the Division of Occupational Safety & Health v. Clark County Fire Department (Statement of Position and Stipulation), Docket No. 89-385, October 1990.

-Citing that the Clark County Fire Department had prior knowledge that units staffed with three personnel were unsafe, the Nevada Department of Occupational Safety and Health issued a complaint that the Fire Department had willfully violated the industry standards relating to fire fighter safety. In the late 1990, the NDOSH agreed to vacate the violation when the Clark County Fire Department stipulated that it would immediately "maintain minimum staffing levels at each fire station so that no engine or ladder truck shall be dispatched from a fire station, staffed with less than four person." In addition, the stipulation entered into the NDOSH and the Fire Department stated that: "Any engine or ladder truck manned with less than four persons shall be defined to be "unsafely manned."

Onieal, Denis G., "In Response to the Demand for Fire Department Cutbacks," Ed.D, Fire Engineering, August 1993.

-This study concludes that the only reliable available research data obtained under fire conditions indicate that four is the minimum staffing level for a fire fighting engine or ladder company. Cited research firmly and unequivocally concludes that for an engine company or ladder company, the minimum acceptable staffing level is four. That number of fire fighters is the minimum number required to successfully accomplish the fireground tasks required within an acceptable time period. Four is not the number at which negotiations begin, but it is the absolute bare minimum required for an effective and efficient fire company.

Roberts, Bill, Fire Chief, City of Austin, "The Austin Fire Department Staffing Study," March 1993.

-In 1993, the Austin Fire Department conducted a study to determine whether companies staffed with four fire fighters were safer and more effective than the three-person companies the department was currently deploying. In order to compare the effectiveness of fire companies, the physiological impact on fire fighters and Austin fire department injury rates at various staffing levels, the Fire Department conducted drills consisting of a series of common fireground tasks divided into three scenarios: a simulated two-story residential fire; a simulated aerial ladder evolution; and a simulated engine company high-rise fire. These simulations revealed that regardless of the experience, preparation or the training of fire fighters, loss of life and property increases when a sufficient number of personnel are not available to conduct the tasks required in an efficient manner. The severity and the degree of hazard increases until controlled or the fire passes the critical point. Consequently, the Austin Fire Department concluded that fire fighter effectiveness significantly improves when a company is increased from three to four personnel. In the two-story residential fire, the efficiency or time improvement between the three-person and four-person crew was 73% in the aerial ladder evolution, the efficiency improvement between the three-person and four-person crews was 66%. In

the high-rise fire, the efficiency improvement between the three-person and four-person engine company crew was 35%. In addition to the fireground simulation, the Austin Fire Department also reviewed injury reports involving 136 emergency incidents from 1989 to 1992 to which 1,938 fire fighters responded. The analysis revealed that the injury rate for four or five-person crews was 5.3 per 100 fire fighters while the three-person companies experienced an injury rate of 7.77 injuries per 100 fire fighters. The injury rate for the three-person companies was 46% higher than the rate for larger crews.

Brunacini, Alan V., "Shrinking Resources vs. Staffing Realities," NFPA Journal, May/June 1992; pp. 28 & 120

-Chief Alan Brunacini concluded that it is illogical to maintain that the requirements, capabilities and conditions of fire department operations differ from one place to another. Fire conducts, convects and radiates the same all over North America. As such, two fighters cannot conduct a primary search that requires six fire fighters for effective completion in a survivable time frame.

City of Long Beach Planning Department, "Long Beach General Plan Program Public Safety Element, May 1975/Reprinted in 2004.

-The scope and purpose of the General Plan is defined on page 1 of the General Plan (GP). Numerous objectives are defined: Complying with State Law, assist public officials in dealing with matters of safety and emergency occurrences, provide Citizens with an increased sense of security and well-being to name just a few. According to the GP Long Beach Fire Department was rated a "Class 1" fire department and the City of Long Beach was categorized a "Class IIA" by the Insurance Services Office (ISO). The GP made "immediate action recommendations" necessary for attaining the established public safety goals set forth in the GP. The first listed goal was to "improve the insurance services rating for Long Beach, implementation of recommendations of the Insurance Services Office for improving fire protection in the City should be considered seriously." California Government Code 65301.5 states "*The adoption of the general plan or any part or element thereof or the adoption of any amendment to such plan or any part or element thereof is a legislative act which shall be reviewable pursuant to Section 1085 of the Code of Civil Procedure.*"

Long Beach Firefighters, Local 372

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PAID FIREFIGHTERS: A COST-EFFECTIVE CHOICE

10/01/2015



By Edward Kelly and Joseph Fleming

In a recent editorial in the *Washington Post*¹, Professor Fred McChesney questions the value of paid fire departments, particularly unionized fire departments. He has written similar Op-eds in the past.² Due to the credibility provided by the editorial board of the *Washington Post*, local papers might pick up this editorial. To assist local fire authorities in developing a response, we have analyzed Professor McChesney's editorial, and have listed several

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Commissioner Frank Matta

resources and Internet links that can be used to supplement the information in this analysis. Since so many of Professor McChesney's arguments are derived from a single National Fire Protection Association (NFPA) report, we would suggest that those who are interested download the report and read it for themselves.³

Professor McChesney

"Rapid improvements in fire safety have caused a dramatic drop in the number of blazes, according to the National Fire Protection Association. Buildings are constructed with fire-resistant materials; clothing and curtains are made of flame-retardant fabrics; and municipal laws mandate sprinkler systems and smoke detectors. The striking results: On highways, vehicle fires declined 64 percent from 1980 to 2013. Building fires fell 54 percent during that time. When they break out, sprinkler systems almost always extinguish the flames before firefighters can turn on a hose."

A Suggested Response

It is true that fires are down in the United States, and consequently fire deaths are down as well. However, the death rate per 1,000 fires has not changed over that time, despite all of the improvements that Professor McChesney mentions.⁴ He ignores the fact that the increase use of synthetic material over that same time period had led to fires that grow much faster and buildings are being built to keep the cold out—but that also means that they keep the heat in. The combination of these factors has made the fires that do occur more dangerous for occupants and firefighters.⁵ In addition, although it is true that sprinklers are a very effective life-saving device, they are present in only 4.6 percent of U.S. homes.⁶ It will take decades before sprinklers will have a major impact. For the foreseeable future, the need for a quick response by firefighters—typically less than eight minutes from the time of the 911 call—is critical, especially if the goal is to save the occupants trapped inside.

We find it interesting that Professor McChesney did not cite the reduction in smoking as one of the reasons for the reduction fires. It is clearly a contributing factor.⁷ Perhaps this oversight stems from the professor's past as a consulting economist for the tobacco industry. "Fred McChesney was one of the founding group of economists who advised the Tobacco Institute to run the operation which became the cash-for-comments economists network ... These academics all had in common the desire to make money from the tobacco industry without revealing their connection to the 'Merchants of Death'. Savarese and Tollison provided them

with the shield from 'legal discovery' so they were able to claim that these were "independent expert opinion articles" (op-eds)." ^{8, 9}

Professor McChesney

But oddly, as the number of fires has dropped, the ranks of firefighters have continued to grow — significantly. There are half as many fires as there were 30 years ago, but about 50 percent more people are paid to fight them.

A Suggested Response

Professor McChesney's argument is based on the simplistic premise that the number of paid firefighters in the U.S. should be proportional to the number of fires in the U.S.

This argument ignores many critical factors.

1. Since 1980, the population of the U.S. has increased by 42 percent (225 million in 1980 to 320 million today). This population is also aging. Both of these trends increase the demand for fire and EMS services. ¹⁰

2. Fires are not the only type of incident that matters for the number of firefighters needed in a community. Local fire departments have become multi-hazard response agencies. This is not a "conspiracy," as suggested by Professor McChesney, but a response to the demand by local communities for better emergency preparedness regardless of the hazard. Local fire departments are the agency designated to mitigate the community's risk from fire, hazmat spills, natural disasters, confined space incidents, etc. This expansion of duties was natural since it took advantage of the pre-existing emergency response capabilities inherent in fire departments.

3. Since 1980 there has been an increase in urbanization. ¹¹ Urban areas tend to require more emergency services, and they also have the resources to pay for those services.

4. The expanded duties of local fire departments over the past 30 years has commensurately increased the training required to become a volunteer. This factor, coupled with increasingly mobile populations and fewer people working within their local communities, has made the recruitment of volunteers more difficult. ¹²

Professor McChesney

But the era of massive fires that claim hundreds of lives is over. Large-scale disasters, such as the 1942 Cocoanut Grove inferno in Boston that killed 492 people, and the 1903 Iroquois Theatre conflagration in Chicago, which killed 602, are largely forgotten. As recently as the early 1980s, it wasn't unusual to have a couple of home fires a year that resulted in 10 or more deaths each, according to the National Fire Protection Association. Today, that kind of fire-related tragedy is almost unheard of. There wasn't a single one between 2008 and 2013 (the most recent year recorded).

A Suggested Response

Professor McChesney expands on his earlier logic by arguing that the number of paid firefighters in the U.S. should be proportional not only to the number of fires in the U.S., but to the number of *catastrophic fires* in the U.S. This part of the analysis is probably the most misleading and ridiculous. By focusing on catastrophic fires, Professor McChesney is ignoring the main reason why communities want a local fire department in the first place. It is not to protect them from catastrophic fires; it is to save their lives and property in a typical one- or two-room fire. The percentage of fire fatalities that occur in catastrophic fires has always been an extremely small portion of the overall fire problem. According to the NFPA, in 2014 (catastrophic multiple death) fires killed 128 people. This accounted for 3.9 percent of the total fire deaths in the U.S. in 2014.¹³ In 1979, the numbers were not that much different. According to the NFPA, fires that killed 10 or more people only accounted for 124 fatalities (1.9 percent) out of 6,245.¹⁴ It also needs to be mentioned that Professor McChesney must not consider the massive wildfires plaguing many parts of the U.S. to be catastrophic fires.

Professor McChesney

For fire departments, building blazes — catastrophic or not — have become infrequent. Firefighters responded to 487,500 structure fires across the United States in 2013, which means each of the nation's 30,000 fire departments saw just one every 22 days, on average.

A Suggested Response

This is a very misleading statement. The vast majority of fire departments in the U.S. are volunteer departments that serve rural areas and protect very small communities. According

to the same report³ relied upon by Professor McChesney, there are 387 fire department protecting communities with more than 100,000 occupants, of which 97 percent are staffed with career firefighters. At the same time, there are 14,059 fire departments protecting communities with less than 2,500 occupants, of which 99 percent are staffed by volunteer firefighters. Most fires occur in larger communities, with many metropolitan fire departments responding to multiple fires each day. To average in volunteer departments with paid departments and then use the results to criticize paid departments is unfair.

Professor Chesney

1987 to 2011, to \$44.8 billion, accounting for inflation. To be fair, fire departments have shouldered additional responsibility since the attacks of Sept. 11, 2001, and are expected to have the training and equipment necessary to respond to various types of terrorism, including biological and chemical attacks. Still, in a November report, the National Fire Protection Association blamed the surge in fire department funding on ballooning staffs, overtime pay and retirement and health benefits — things that have nothing to do with the threat of terrorism.

A Suggested Response

First, Professor McChesney's attempt to be "fair" is in truth "unfair." His assumption that the only increase in responsibilities that local fire departments have added in the past few years relates to terrorism is inaccurate. This attempt "to be fair" was probably only included to give the impression that the author was being objective. Actually, his next opinion, regarding the referenced NFPA Report³, appears completely subjective. The NFPA does not "blame" paid fire departments for the increase in expenditures. Here is the exact quote. -

From the Section Titled, "U.S. Expenditures on Local Fire Protection" –

"Note that these expenditures adjusted for inflation, have risen 172% from 1980 to 2011. Other municipal service costs like police protection have risen in a similar manner. Fire protection costs rose 114% from 1986 to 2011 after adjusting for inflation, while the number of career firefighters increased 45%. Since chiefs of fire departments serving larger communities report problems with shrinking budgets or with level budgets combined with increasing responsibilities, this clear pattern of increasing fire department resources nationwide is difficult to interpret. Some of the factors possibly contributing to this increase in costs are (1) shrinkage of the work week for some departments, which results in a need to

increase staffing and apparatus or to pay firefighters at overtime rates; (2) increased EMS responsibilities requiring increased staffing and, in some communities, a more frequent replacement of apparatus; and (3) costs of retirement and health benefits continuing to rise as they do for the general population."

Professor McChesney

Exorbitant overtime costs are fueled by union-negotiated minimum-staffing levels that often mandate four firefighters per engine be on duty at all times, regardless of the cost or workload.

A Suggested Response

As with so much of this editorial, no data is provided to support Professor McChesney's opinion. First, it is unlikely that "union-negotiated minimum staffing levels" for four firefighters are creating exorbitant overtime costs, since few departments, except for larger cities, have minimum staffing levels of four fire fighters. Typical for most moderate-sized communities is three firefighters, but many have less than three.¹⁵ Second, the benefit of minimum staffing, particularly in larger cities with dense construction and larger buildings, has been documented in many independent studies. The most recent and scientific research was conducted by the US National Institute of Standards and Technology (NIST).¹⁶

Professor McChesney

In other words, for every structure fire a fire department responds to, it receives 44 medical calls, on average. So "fire" department has become a misnomer. In practice, these agencies have become emergency medical responders. The problem with that? Most communities already have ambulance services, whose staffs are less expensive and more highly trained in medical aid.

A Suggested Response

Notice how no data is provided to support the claim that "most communities already have ambulance services." Of the 200 most populated communities, 97 percent have the fire service delivering pre-hospital emergency medical service response. Additionally, the fire service provides critical advanced life support (ALS) response and care in 90 percent of the 30 most populated U.S. cities and counties. Today, virtually every firefighter in the United

States receives medical training as a part of their normal training agenda. Many firefighters are classified as firefighter/EMTs or firefighter/paramedics.¹⁷

Professor McChesney

Recognizing the overlap, some cities have merged their fire and EMS services, over union objections. Some require that all members of the newly combined agency be certified to respond to both types of crisis, which improves efficiency and lowers costs. But other cities have struggled to merge the cultures and operations of the departments.

A Suggested Response

This claim is false. Although there may be isolated cases in which a local fire department resists taking over EMS duties, the vast majority welcome this trend. It is a natural extension of the traditional fire service role, i.e. protecting the public. Both the International Association of Fire Chiefs (IAFC), which is comprised of fire chiefs from paid and volunteer fire departments, and the International Association of Fire Fighters (IAFF) support fire-based EMS. 17, 18

Professor McChesney

Municipalities that have stuck with the volunteer model got it right — and that is most of them. About 69 percent of all firefighters in the country are volunteers. It is mainly larger cities and towns that have been burdened by union staffing and salary demands that are incompatible with their declining firefighting needs.

A Suggested Response

This is a very misleading statement. According to the NFPA, the 14.8 percent of fire departments that are career/mostly career, many of them union, protect over 66 percent of the U.S. population.³

Professor McChesney

Nor is this to say that professional firefighters are not heroic. They are and have repeatedly proved as much, most notably during the Sept. 11 attacks. But volunteers also are capable of such bravery. When we entrusted them with protecting our largest cities from blazes, they

showed up and courageously put their lives on the line. In 1835, New York's volunteer firefighters faced freezing conditions to battle the conflagration that destroyed Lower Manhattan but killed just two people.

A Suggested Response

No one is arguing, as implied by professor McChesney, that the courage of professional firefighters is what distinguished them from volunteers. Based on conversations with firefighters that we know, the courage shown by the members of the FDNY that day, or for that matter any other day, is an example that both paid and volunteer firefighters hope to emulate, if the job requires it. (Perhaps the reason that Professor McChesney's articles always appear near the anniversary of 9/11 is to counteract the natural sympathy for the paid fire service invoked by this tragedy.) The key difference between volunteers and paid firefighters is response time and staffing. As the NIST studies¹⁶ indicate, once a response time exceeds eight minutes and/or staffing falls below four firefighters, the probability that occupants' lives will be saved and the fire damage will be limited decrease dramatically. The need for a quick response for EMS incidents is just as critical. It is in recognition of these realities that most communities that can afford to do so choose to rely on paid firefighters. We suspect that the citizens of New York would not be satisfied with the fact that "just two people died" if lower Manhattan was destroyed.

*

Although Professor McChesney seems sincere in his beliefs, this editorial reminds us of Mark Twain's advice: "Never let the truth stand in the way of a good story."¹⁹ To many in the fire service, both volunteer and paid, some of the professor's opinions sound irrational and venomous, particularly since he seems to repeatedly send out this argument around the anniversary of 9/11. This seems to be "rubbing salt in the wound." He is apparently a libertarian who opinions "arise from his realization that government is merely a collection of self-interested individuals. Being in government gives the special people a property right, not just to legislate rents but to impose costs."²⁰ As a consequence, Professor McChesney appears to feel that being a paid firefighter is a type of extortion. Viewed in this light, it starts to become understandable where his antagonism for paid firefighters, particularly unionized firefighters, originates. Fortunately, the vast majority of the public as well as the vast majority of elected officials do not share this ideology or his negative opinion of those of us who have chosen firefighting as a profession.

In order to assist local officials, who have to balance a community's desire for adequate emergency response with a community's desire for fiscal prudence, the following steps could be taken.

1. If a local newspaper attempts to publish a copy of this article, ask them to please fact check it first. In the case of this editorial, the fact checkers at the *Washington Post* must have been on vacation. It is also possible that the editors were sympathetic to the professor's libertarian views since, "in January 2014, the Post announced a partnership with the conservative-libertarian blog The Volokh Conspiracy."²¹ We do not object to anyone writing Op-Eds that advocate libertarian/small government ideas. We do object to those who ignore or misinterpret inconvenient facts just because they do not support those ideas. If your local paper insists on publishing it, request the opportunity to challenge his arguments and facts.
2. Instead of waiting for these types of media attacks, be proactive. Using the Internet, community meetings, local media etc. educate the public about the changing role of the fire service and explain all of the services that their local fire department provides.
3. Educate yourself regarding the latest research from NIST, NFPA, and Underwriters Laboratories so that you have the information at your fingertips. In our many conversations with the public, it is obvious that few are aware of how fast fire grows and the importance of a quick response.
4. Read about the groundbreaking research undertaken by the economist at the University of Arizona titled, "The Economic Impact of Successful Commercial Fire Interventions." For a one-year period, this study estimated that, if the Phoenix (AZ) Fire Department had been unable to successfully intervene in 42 commercial fires, the state of Arizona would have experienced a loss of \$650 million dollars in Gross State Product and over \$35 million in state tax revenue.²²

While there is no guarantee that educating local officials about the reality of providing emergency response in the 21st Century will stop dangerous cutbacks in services, we have found that educating local and state officials regarding the multi-faceted emergency response capabilities of a typical local fire department can make a difference. We also hope that this information allows local fire officials to educate the public they protect. Additional information is available from others who disagree with Professor McChesney's editorial. For example:

Campus Safety²³ and the IAFF²⁴ have critiques with interesting points of view on this issue.

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Eddie (Edzo) Kelly has been a member of the Boston (MA) Fire Department since 1997. He was elected President of Boston Fire Fighters Local 718 (IAFF) in 2005 and President of the Professional Fire Fighters of Massachusetts (IAFF) in 2011. In 2015, recognizing the pivotal role the fire service will play in pre-hospital care; President Kelly advanced a multidisciplinary strategic vision paving the way for Massachusetts to initiate Mobile Integrated Health Care, the first legislation of its kind in the nation to incorporate fire-based EMS in mobile community health. This legislation seeks to maximize patient outcomes, while fostering community, health and wellness.

Joseph (Jay) Fleming has been a member of the Boston (MA) Fire Department since 1978. He has held the rank of Deputy Fire Chief since 1992. Jay is also a member of Boston Fire Fighters Local 718 (IAFF). Jay has been recognized by the State of Massachusetts, the Boston Fire Department, Local 718 and the Boston Municipal Research Bureau (a fiscal "watchdog" group) for his efforts to protect the public and fire fighters. Jay works as a consultant with the PFFM to generate new ideas for fire fighters safety and fire department productivity.

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