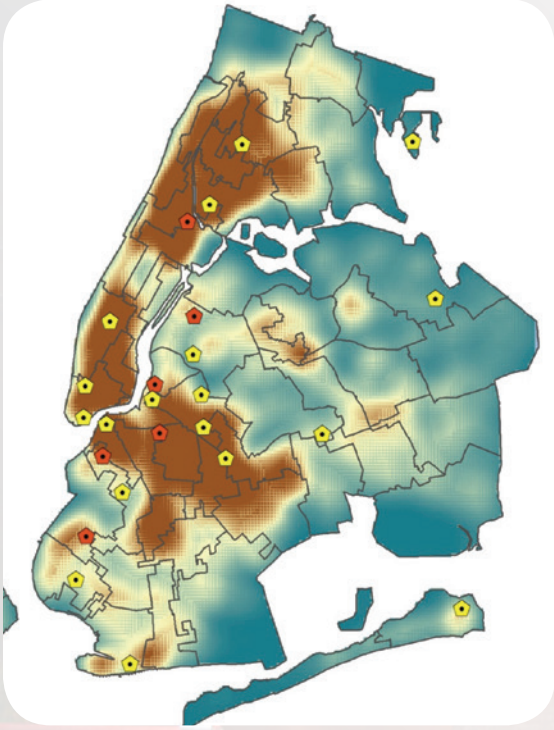
PennWell®

Fire Engineering®



TRAINING DIGEST

# Fire Service Leadership Issues

This digest is a must read for anyone considering promotion, recently promoted, or currently serving in the rank of chief officer. For the aspiring officer, Sal Scarpa provides an insightful look at leadership and the characteristics and activities you must engage in to be successful. Kent Collins provides an overview of one of the most controversial issues of our time: social media and policy. He offers several case studies and sound advice for developing departmental policy. Kat Sonia Thomson looks at department allocation decisions regarding budgets and leads a robust discussion about the need to improve research and reporting.

TARGETSOLUTIONS

# The Ultimate Fire Department Training Management System.


## TargetSolutions Features Easy-to-Use Applications for Scheduling, Delivering and Tracking Training and Compliance Records.

## Train. Track. Report.

If you want to track every single aspect of your fire department's training program, TargetSolutions is the tool for you. Innovative web-based tools make it possible to document every single hour of training, every policy requiring documentation, every inspection, every driver's license, every EMT credential. You are going to be amazed by the power and efficiency of TargetSolutions' fire department training management system.

www.targetsolutions.com | 800.840.8048

# Advice for Newly Promoted Officers

*BY* **SAL SCARPA**

**NEWLY APPOINTED FIRE** service leaders have a huge opportunity to effect change, but that change, although desperately needed, will not come easily. These company and chief officers will have to lead the fire service through today's economic turmoil and past the uncertainties of the future. If the recently appointed officers are to be effective in their new capacity, they will need to translate their positional rank to leadership.

There is a wide array of theories on what leadership is and is not. Most people will say they know it when they see it and, conversely, they know what leadership is not! Consider that members in your organization now look to you for leadership and direction. You, as a company or a chief officer, are "in charge" of other people and are expected to lead them sometimes in the most dire of circumstances. What kind of leader will you be? Will your people follow you because of your rank or because they want to? What makes for a true leader?

## LEADER CHARACTERISTICS

Among the characteristics identified in effective leaders are the following:

:: **Vision to see "over the horizon."** Being a visionary enables a leader to anticipate the challenges that may come about to impact the department. International Association of Fire Chiefs President Jack Parrow believes that the fire service will experience 50 years of change between 2010 and 2015—changes in technology, the economic climate, and global unrest. All of these factors will force the fire service leaders of tomorrow to look beyond the curve and visualize their organizations in the future. Such uncertainty will force our organizations to identify new ways of doing business and challenge our traditional approach to problem solving in our communities.

A visionary looks past the immediate challenges and plans strategically

to position the organization for that future. Engage your staff members in organizational planning that will put you ahead of the curve and in a position to manage the inevitable changes instead of just reacting to them. What value is it to a fire department if the chief can anticipate changes but does nothing to prepare the department for them? Strategic planning coupled with an organizational awareness will be critical factors in determining whether an organization survives or thrives in the future.

:: **Charisma.** A leader cannot be effective without followers. A leader with a cause will have to rally those around him to support the cause and see it through to realization. Charisma draws people to you; it ignites a passion in people to act. Is charisma an innate personality trait, or can it be acquired? I would argue that individuals passionate about their cause can develop the ability to attract others to them. A charismatic leader who can effectively engage others and gain commitment to the mission will generate positive and lasting results for the organization. Get in front of your organization with a topic you are passionate about, and work on your message. You may be surprised at how effective you will be at recruiting a following.

:: **Persistence.** Leaders are doomed to fail if they cannot see their plan through to fruition. Persistence is the key. A journey is not worth taking if there is no destination. Effective leaders need to be persistent and unyielding in their efforts to achieve goals. Despite distractions, challenges, and seemingly improbable obstacles, the persevering leader will see it through and realize the end result. How many projects has your organization undertaken that have died on the vine? What effect does that have on morale? How excited do you expect your members to get the next time you announce a new initiative?

Every good leader needs to be able to multitask. But if you take on more projects than you can effectively devote your energies to, all of them will suffer, along with your credibility. Complete a project, or get one well underway before you start a new one. Effective leaders stay the course and finish what they start.

:: **Accountability.** Invariably, you will have to engage a host of stakeholders, internal and external to your organization, particularly if the project you wish to undertake is significant. If you are to take on EMS transport, for example, it is likely much too large a project for one person to tackle. For the end result to be realized, you as the leader will have to keep everyone engaged and accountable for their task (piece of the puzzle). If one person or

group falls behind or fails to deliver its component, the entire process falters. Accountability is not just a responsibility of leaders; it should be a cultural aspect of leadership in your organization. Failure to follow up will generate a passive disregard for consequences that will be systemic to the organization. Ultimately, the results will be failing morale and the collapse of faith in your organization's leadership.

:: **Stay "involved."** Never plateau. Don't allow yourself to bask in the feeling that you have "arrived" and there is nothing more to achieve in your career or for your organization. Continue to take on new challenges, and seek new ways to improve the department. The officer who doesn't want to rock the boat has hit a plateau. The officer who is satisfied with the status quo, doesn't stay on top of the latest fire service trends, and is not interested in training or education other than for what is required to maintain licensure has hit a plateau. Such officers are no longer effective for their organization and essentially have failed to demonstrate leadership.

Leaders who lose interest in leading are taking up a promotional spot for another candidate who probably still has a vision for the future and wants to be an effective organizational leader.

## OFFICER AS CHANGE BROKER

Most aspiring lieutenants, company officers, and chief officers have one thing in common: They want the promotion to effect change. They may not know it or be able to articulate it in an interview process, but they want to get promoted because they see and experience things being done that they believe can be done better. However, having a desire to influence change and being successful at it are two different things.

Although the good intent, enthusiasm, and sometimes blind luck of the aspiring company and chief officers are enough to get them into the position they sought, they probably won't be enough to help them stay the course. It's very easy to relax, become stagnant, lose focus, and forget all the reasons you wanted to become an officer. As junior officers become senior officers and assistant and deputy chiefs become chiefs, they meet resistance to change along the way. That resistance comes in many forms and sometimes from the places and people you'd least expect. Following are some pointers that can help new officers to navigate

the pitfalls and roadblocks that will challenge them along the way and to help ensure they're successful, at becoming what Atlanta (GA) Fire Department Chief Kelvin Cochran describes as a change broker.

**Observe and Learn**

You've been promoted! You're excited about the position and the challenges and are intent on "fixing" those things you've had in mind as you promoted up through the ranks. Now what? Before you start off to set the world on fire (not literally, of course), take a breath! Take in the subtle differences of your new position. The obvious changes will be easy to spot: You ride up front instead of in the back; you're in the chief's buggy in charge of an entire shift instead of in the engine entrusted with a crew; you've got a lot more administrative work to do, and you have less "down time."

Take in the more subtle changes that, while less obvious, are equally as important. Your cell phone stops ringing after you put on that white shirt. Those invitations to hang out with the crew at the lake on your days off don't come anymore. You've become one of "them." Your words carry a lot more weight now. When you talk at the dinner table with your shift or crew, your statements become policy or at least the talk on the engine room floor about what the new lieutenant thinks of Administration. You'll be forced to spend less time doing the things you like to do and more time heavily engaged in the things you're forced to do. Your paradigm has changed.

Before you realize it, you will have more things to do or manage than you care to handle. Take a moment to assimilate these differences into your goals and objectives. Take the time to listen to your personnel and understand what the hot topics, frustrations, or problems are. You probably won't have to ask. Just sit back and listen to the conversation taking place around the kitchen table. Your approach to a problem may have to be different, or you may have to engage different players to meet your objectives. This may require a change of plans or, at the very least, a delay in pursuing some of your interests.

**Build Alliances**

Identify critical players, allies, and collaborators who will be key individuals throughout your career and who may be instrumental in helping you achieve your objectives. They are those persons internal and external to the organization

who share your ideals and will support efforts to effect the changes you seek because they are mutually beneficial and support the organization overall. These folks may be stakeholders outside your department who will benefit from a fiscally sound city service, such as the fire service, and do not want to see it diminish under the harsh realities of the economy. Or, they could be other officers on your shift or in the department who can collaborate with you on projects and committees so that the changes you collectively achieve are embodied throughout the organization and are not unilaterally employed on a single shift or company.

When I was assigned to procure new bunker gear for our department, I sought committee members of all ranks across all shifts. I surveyed the entire department to see what was important to them in structural firefighting gear. My goal was to ensure that everyone truly had a say and felt part of the process and readily embraced the end product. Regardless of their position, finding and making allies will go a long way toward helping you transition into your new position and getting things done.

The critical allies can help you in other ways as well. You may want to tap the experience of more seasoned members. Gleaning from others' experiences and insights will help you identify the pitfalls and challenges you are likely to face in undertaking your efforts. These other members, if sympathetic to your cause, will not only lend assistance but may also lend credibility to your efforts. Their very presence in your meetings, their vocal support of your ideas, their intelligence about anticipated obstacles—all of these intangible variables are critical assets derived from building alliances with key individuals that will pay huge dividends in the future. In addition, the ability to gain input from a variety of individuals and have multiple eyes looking at a single goal not only spreads the workload but allows for multiple points of view to be shared and debated. You may find that someone else thought of something quite important that you hadn't even considered.

**Plan of Action**

A change broker must establish a plan. Many leaders want to enact change right away. They are passionate about their cause and feel vindicated that others see enough value in them to promote them. But, not many changes come easily. You might be able to relocate the mailboxes within your station for easier access

fairly easily enough, but changes that are of any significance or that have long lasting impacts (i.e., taking on EMS transport or adding a third station) are going to require careful planning and probably are not going to get done quickly. That's okay, because if it's worth doing, it's worth doing it right, and that sometimes takes a little time and often a lot of effort.

My organization recently went through a realignment process to more appropriately staff our apparatus and provide sufficient resources on the emergency scene. The process involved a serious look at the deployment of our shift personnel on existing equipment. Essentially, we were cross-staffing two apparatus with the personnel for one piece of equipment. This resulted in some equipment going out the door with only two people on it. The chief (and many in the department) felt this was inappropriate and unsafe. After months of debate and discussion and experimenting with different potential solutions, the chief ultimately decided to shut down an engine company and beef up staffing on the ladder truck. We were able to save the officer and driver positions and staff our apparatus more adequately. This was a major organizational change for a department of 60 members and will have long-term implications for how we do business.

In the end, I believe the careful planning and collaborative efforts produced a workable solution that has been beneficial to the organization and the community. (It should be noted that this process was an effort that included many discussions between union personnel and management. Collaboratively, both sides worked together to determine a path forward that has led us to our current state. This is just another example of not only effective planning but also of collaboration among a variety of stakeholders that has produced a positive result.)

When seeking to make changes in your organization, consider what it is you want to accomplish. Maybe your goal is to update your department's outdated standard operating procedures (SOPs) or instituting a vigorous fire prevention program for your community. Maybe your organization is expanding and you need to look at adding fire stations to outlying parts of your district. Each of these endeavors is going to involve perhaps a different set of skills and different stakeholders to pull it off. It's important to understand this up front and plan accordingly. Start with solving a few of the small problems that are hot topics around the station to build

trust and respect and to show you can produce results.

Updating SOPs may sound like an easy task, but it may require approval from the chief officers who wrote those original SOPs. The desire to add a fire prevention program is certainly admirable; but in times of diminishing budgets and doing more with less, you may have to be creative and opportunistic to pull it off. A public/private partnership may afford the opportunity to pull it off, but growing those critical partnerships will require an investment in time and people. Certainly, locating fire stations to expand your district will have long-term ramifications for your community. It will be important to identify and engage your community stakeholders to achieve maximum return on this significant organizational investment.

**Action, Not Words**

Don't sit and dwell on your ideas for an unreasonable amount of time, or you may lose the courage to act. Solicit input from critical stakeholders, align yourself with some allies, identify key players, and get moving. As a new leader, your subordinates will be watching you and what you do. It is imperative that whatever mission you tackle first is achievable. Remember, you cannot change the world overnight. Take on a project that can achieve some tangible results in the short term. If you get immersed in a long-term project right away, you will fail to give those around you the opportunity to see you succeed. Trust me; they want an effective leader, someone who can get things done. However worthy the long-term project may be, getting bogged down in something that doesn't yield (relatively) immediate results will hamper your ability to show them what you can do. Look for something with a potentially quick turnaround, and get it done! Your troops want action, not words.

You need to be successful in your mission and accomplish some things for your members along the way as well. Take the time to find out what irks them. What are some operational obstacles that affect their job that you can do something about? Maybe it's a simple thing that has to do with logging calls, perhaps an outdated computer or a problem with the dispatching system. Whatever it is, if you can devise a solution that's relatively easy to implement and can do it fairly quickly (and, of course, it is within your sphere of responsibility), then get it done, and tell your troops about it. It'll help you; it'll help your department; and you'll

score some points with your members, who will rally around other efforts you may engage in.

Recently, I found out a newer firefighter had been issued only a single set of station pants. Somehow in his hiring process, some of his pants were returned to the vendor and he was left with a single pair. When I found out, I put him in my car, drove to the store, and bought him some duty pants. It was a no-brainer for me but something a rookie might not complain about. Remember, your members are watching you and want to see if you're going to be successful and an advocate for them as well. Choose a "doable" project that you can reasonably accomplish fairly quickly and produce tangible results that benefit everyone.

•••

The first few months of being a new officer—whether a company officer or a chief officer—are a little harrowing. The anxiety of the testing process is over, but the overwhelming desire to be successful in your new position is daunting. Some organizations do a poor job of preparing future leaders to be successful. If you haven't figured it out yet, the knowledge, skills, and abilities to do your new job didn't come with the shiny new badge. This article outlines steps you can take right away to help establish your footing. After the novelty of your new position wears off, remember where you came from and why you wanted to get promoted in the first place—to be in a better position to effect change. You're there now, so do it! You are now a change broker!

**SAL SCARPA** is a battalion chief for the North Kansas City (MO) Fire Department. He has served for 20 years in career and volunteer fire departments. He is an instructor for the Western Missouri Regional Fire Academy and has begun providing training programs on leadership in public safety. He has an associate degree in fire science and a bachelor's degree in public administration. He is a graduate of the Executive Fire Officer (EFO) program at the National Fire Academy and has been recognized as a Chief Fire Officer (CFO) by the Center for Public Safety Excellence.



*Originally published July 1, 2012*

TARGETSOLUTIONS

# More Than Just Online Training. Much More.

TargetSolutions' One-of-a-Kind Tracking System Features Innovative Applications for Managing Fire Department Records.


## The Leading Training Technology.

With more than 250 hours of Fire & EMS recertification training, TargetSolutions has become the leader for online continuing education. What truly makes TargetSolutions special is its unique fire department tracking applications. Whether it's ISO compliance, EMS recertification, daily drill-yard training, or anything else that goes on in the fire service, TargetSolutions has you covered.

## Track Everything. Every Time.

TargetSolutions comes loaded with ready-made electronic documents that simplify the delivery, tracking, and reporting of mandatory training and operational tasks.

ARFF - Career Management - Controlled Substances - Daily Training - Driver's Licenses - EMS & Fire Recertification - Inspection Checks - ISO Compliance - NIMS-ICS - Polices & SOGs - Post-Incident Analysis - Pre-Training - Pre-Planning Reports - Probationary Evals - Sexual Harassment Training - Skills Sheets - Task Books - USAR - Wildland Fire Training

www.targetsolutions.com | 800.840.8048

# The Fire Department and Social Media: What's Your Policy?

*BY* **KENT COLLINS**

**IT IS NOT** news that firefighters like to share stories. The dinner table has long been a place for sharing the strange and interesting stories of rides in which you responded. The stories are sometimes both funny and cathartic, almost acting as a stress debriefing among friends. Occasionally in the past, there have been firefighters who threw a camera on the rig to catch an interesting sight. The pictures were few and far between mainly because of the nuisance of getting film developed, but that has since changed with the advent of digital cameras. Because almost every firefighter carries a mobile phone and almost every mobile phone has a camera, it has become easy to take pictures, and they don't need to be developed. Smartphones, which record high-quality video, now have still cameras that rival expensive digital cameras. This relatively new technology and the unanticipated consequences that have resulted from its use have caught many fire departments off guard, and they are now struggling to catch up in developing and implementing policies regulating their members' use of these technologies. They are trying to keep up so that the departments will not be subject to litigation and other public and internal problems. Even state and federal lawmakers have not been able to fully understand the implications of digital media and how to properly contain the spread of digital information and pictures. Fire departments, police departments, ambulances, and hospitals all are racing to manage digital media use. There is always the possibility that a seemingly innocent or questionable image, video, or piece of information could be spread around the Internet and across the world within hours or even minutes.

The biggest problem with digital media, especially mobile phones, is their ubiquitous nature. Studies suggest that right now 82 percent[1] of Americans have a mobile phone. On a rig, two or three firefighters may have cell phones in their pockets. Often, the phones have been very helpful in providing customer service. Conversely, they also provide the opportunity to snap a quick picture.

## THE ADVENT OF PROBLEMS

It is possible that the habit of snapping a quick picture first posed a problem for fire departments on July 17, 2010. On that day, a 23-year-old woman named Dayna Kempson-Schacht ran off the road in a single-car accident.[2] When the fire department arrived, the victim was already dead. Firefighter Terrance Reid took out his phone and shot a video of the victim, complete with graphic commentary, while she was still in the vehicle. At first, Reid shared the video only with firefighters with whom he worked, but the situation quickly spiraled out of his control. The next night, a firefighter who had received the video went out to a bar and began sending the video to the phones of other patrons at the bar. One of those patrons then put the video online; from there, it went worldwide and was posted on as many as 800 Web sites at one point. The video made it back to the parents of the 23-year-old woman. The pain of seeing their daughter mutilated and lifeless was almost too much for them to bear. Then, all eyes turned toward the fire department and others responsible for putting the video out there for all the world to see.

Reid did not break any laws or violate any department policies or even state laws. There were no department standard operating procedures (SOPs) or any laws specifically addressing the use of this technology. Although what he did may have been morally or ethically wrong, it wasn't illegal: The car was in public view, accessible to the general public, and legally could be recorded. Since the fire department did not have any SOPs prohibiting the use of digital images, ownership of the picture was in dispute. Under normal circumstances, pictures belong to the photographer, as is the case of a private citizen or a newspaper. This is a basic tenet of copyright law.[3] The general rule is that the person who takes a picture owns the copyright to the photo, unless it was taken under a "work made for hire" agreement—taking the photo while performing within the scope of your employment. In that case, the photo would belong to the employer. But that relationship can be challenged as well.

The courts generally resolve disputes over a photograph's ownership. This was the case for the photographer who took the famous picture of Oklahoma City (OK) Fire Department's Captain Chris Fields carrying Baylee Almon during the initial moments after the Alfred P. Murrah Building bombing in 1995.

Had Reid been a private citizen, the video or pictures would have been his property, and he would not have been under obligation to preserve them. But because he was on duty as a firefighter, he is considered an official of the fire department, and those pictures or the video can be used as evidence in a criminal or civil case. If another vehicle had been involved in the accident or had another death occurred, the video images taken by Reid would have had to be properly preserved as evidence. If any part of the photographic evidence were deleted, changed, or misplaced, Reid could have been charged with "spoliation,"[4] the misappropriation or destruction of evidence. Because spoliation can change the course of a criminal or civil case, the individual deleting such imagery could be sentenced to a term of imprisonment. In cases using spoliation as a defense, the defense attorney can argue that the missing images raise reasonable doubt, preserving his client's innocence. In a civil case, a judge can easily rule against one side for not properly preserving evidence.

Other legal implications can be very expensive, as the entire department becomes a target for a lawyer retained by an offended family member. In Reid's case, the family could sue the department and the firefighter for taking and distributing images of their daughter. Remember, in civil litigation, money is the remedy and the general public thinks that fire departments have deep pockets and they can win large awards. At times, the action is so egregious the jury awards punitive damages as well. Departments that do not have proper SOPs in place regarding digital images and social media are at great risk of incurring large monetary judgments. The actions of a single firefighter can affect the entire department.

Reid was terminated by the fire department under a catchall policy of "conduct unbecoming." His actions also affected other firefighters in his department: Six firefighters were reprimanded for the video. Others were cited for helping to distribute the footage and for being aware of Reid's actions and not reporting them. The small fire department for which Reid worked is being sued in civil court.

The victim was not just a daughter but also a mother of two young children. One wonders what their reaction would be if (possibly when) they saw one of the thousands of copies of the video of their dead mother. When common sense does not work, direct and well-written SOPs have to be put in place. Social media

has made the world a very small place—people from all over the world are able to share information, opinions, and experiences as well as other mediums like pictures, video, and music.

**CASE INVOLVING OFF-DUTY FIREFIGHTER**

However, public employees do not own all the information and visuals they share. In another case, an off-duty South Carolina firefighter posted a cartoon video on his Facebook page. The video was a parody set in a local hospital's emergency room involving a firefighter and a doctor; it portrayed the doctor in a less than flattering light. Thousands saw the video, which embarrassed not only the fire department but also the doctor and the hospital. The incident created unnecessary tension between the fire department and the hospital.

What makes this case unique is that the firefighter was off duty when he produced the video and posted it on his personal Facebook page. Many would assume that the firefighter had the right to post the video and that he would be protected by the First Amendment,[5] the right to free speech. But free speech has its limitations. First, to be protected by free speech, the matter has to be of a public nature and not a petty grievance. This did not apply here. The dialog between the firefighter and the doctor could have been known only by the persons in that private setting, and the information of the conversation could be known only by the firefighter because of his employment.

Moreover, the firefighter had on his Facebook page (as do many of us) many references to his employment as a firefighter and his department. This information linked his video to his workplace. When a person's employment becomes publicly known and that person is speaking from a place of knowledge gained only from that employment, that person becomes a representative of that department. It is enough that a "reasonable citizen"[6] can assume the information is coming from a position of knowledge or expertise.

In 2006, the Supreme Court held that public employees are not entitled to First Amendment protection for speech arising from their official duties.[7] It is akin to an off-duty firefighter's speaking to a reporter about a fire and giving specifics of the incident; that firefighter is speaking as a fire department representative. This information can turn up anywhere, including a news broadcast. Any statements

made by an "official" or a representative of the department can also come back to haunt in a civil or criminal case. In a very recent Facebook post, an ambulance paramedic posted that his medical kit did not have the required medications for a full cardiac arrest incident. If the family were to discover this, or if a civil case were ever filed, that post could possibly be used as evidence of negligence.

The South Carolina firefighter was fired for "conduct unbecoming" after posting the video because, as a de facto representative of the fire department, the video embarrassed the department and did not reflect its values. Whether on or off duty, firefighters must still maintain privacy standards regarding information obtained as part of the job. Any knowledge or information gained as part of employment is privileged and protected from disclosure. In these issues, the department has a vested interest in how that information is used. The firefighter is attempting to get his job back through a civil action.

**ADDITIONAL REPERCUSSIONS**

Posting pictures and video has other repercussions. John Snow of the Clinton-Hickman Ambulance Service in Kentucky responded to a car accident in which a local teenager was killed. This was a very small ambulance service, and the director of the ambulance service said several other agencies were taking photos of the scene. Although Snow was asked to take photos of the entire scene,[8] he erred when he posted the photos on his personal blog along with his chronicle of the incident. None of the relatives of the victim saw the pictures, but on hearing of Snow's blog, four of the victims' relatives, including the victim's mother, father, and uncle, showed up at the medic's place of employment and assaulted him, causing serious injuries. All four family members were arrested and charged with assault. Despite the attack, the ambulance board met and decided that Snow's continued employment would weaken the confidence of the whole ambulance service. He was fired while 100 people waited outside in support of his termination.

In another extreme case, a paramedic lost his license because of a Facebook posting. In New York, a former police officer working as a paramedic for a local fire department took pictures of a murder victim. He then posted the pictures on one of the many gore sites on the Internet. This fire department had policies in place prior to the incident. The paramedic was terminated based on these policies. He was also charged with "Official Misconduct,"[9] a misdemeanor in the

state of New York. He pleaded this charge down to "Disorderly Conduct" and was sentenced to 200 hours of community service, and he had to surrender his emergency medical technician (EMT) license. He cannot reapply to get his license back; his career as a paramedic/EMT is over.

Digital and social media technologies are moving fast, and some legislators are trying to stop the unauthorized posting of digital media. New York is among the states looking at this type of legislation. Under current New York law, the maximum charge for posting photos such as those by the former police officer is a misdemeanor. Legislation under consideration by the New York legislature would make it a felony for on-duty public servants to take pictures or videos of a crime scene for private use.[10]

There have also been changes in the privacy laws regarding the victim's family. The common law right of privacy does not survive an individual's death,[11] and the courts do not universally agree on the existence of a relational right of privacy in most circumstances. In the 2004 Supreme Court decision on Favish,[12] the court recognized "the right of family members to direct and control disposition of the body of the deceased and to limit attempts to exploit pictures of the deceased." This ruling will have quite a legal impact on public employees, both criminally and civilly, by limiting access to images. It could possibly set a precedent in the illegal distribution of images acquired by members of the public safety services.

California has a law in place that addresses intentional infliction of emotional distress. In cases where it is proven that the picture or video was posted with "reckless disregard" and that it could cause emotional distress to surviving family members, a first responder could be held liable. This law was enacted after an incident in which a member of the California Highway Patrol took pictures of Nikki Catsouras after her fatal accident and the pictures of her dead body ended up online. The more incidents involving taking pictures and video at the scene of an accident and distributing them over the Internet that occur, the more likely lawmakers will set harsher penalties.

Other technologies, such as photo "geotagging," may increase the possibilities for violations of law as it relates to the distribution of patient information under the Health Insurance Portability and Accountability Act (HIPAA) of 1996, which

controls the distribution of health information to certain qualified individuals like physicians, other health care practitioners, hospitals, or insurance companies. In photos taken with a mobile phone, the location of where that photo was taken is embedded within the photo's data. Anyone can download the photo and get the coordinates of that location. This could potentially give people a patient's address and medical condition.

Digital media use could violate certain aspects of HIPAA, which protects five essential pieces of information; three affect first responders. They are information entered into medical records, conversations with a medical doctor (or first responder), and information entered into a computer. One current case involves an EMT lieutenant in the Fire Department of New York who released photos taken off his computer screen to record a patient's unusual medical symptoms. After the photo was posted on his Facebook page, it was noted that the patient's name and address were in the picture. The fire officer was terminated and may have to pay fines or be subjected to civil litigation.

It is clear that digital and social media will continue to be a part of everyday life and that it will become easier to distribute information through these outlets. What used to be a top-of-the-line desktop computer has become a handheld device you can slip in your pocket. The world is getting smaller and smaller with every leap in technology, and it is important that the fire service be prepared to deal with these changes. Departments need to have a definitive and effective SOP in place before the digital issue comes up, and all department members must become familiar with the issue, especially understanding that the misuse of social media is serious and can have far-reaching effects for the individual and the department.

**SOP EXAMPLES**

As a good example, the Oklahoma City Fire Department has two separate SOPs on this issue. The first is in the Administration Manual (ADN/058); it defines the issue of ownership of electronic images. Whether on or off duty, any images taken with fire department equipment belong to the fire department and have to be turned into the proper department authority. This SOP covers all images taken except station duties, training, or nonemergency documentation. The second SOP is found in the Communication Manual (OPS/201). It states that no

unauthorized electronic equipment can be used during emergency rides. These two policies provide protection for the department by stopping the tide of images and information from getting out of control. Like many good policies, they were enacted after an unfortunate incident involving social media.

Technology is changing, the laws are changing, and the fire department and all of its employees need to change to keep up.

**Endnotes**


1. Stevens, Tim. "82% of Americans Own Cell Phones," Nov. 14.-1997. http://www.switched.com/2007/11/14/82-of-americans-own-cell-phones.
2. "Firefighter Dismissed Over Car Crash Video," CBSnews.com. 02, May, 2011. http://www.cbsnews.com/stories/2010/10/28/national/main7001931.shtml.
3. "Works made for hire under the Copyright Act of 1976." U.S. Copyright Office, Library of Congress, Washington, DC. 04 June 2011 http://firelawblog.com/files/2011/02/copyrightcirc09.pdf.
4. Varone, Curt. "Fireground Photos, Facebook, and Discipline." Firewebblog.com <http://firelawblog.com >Path: social media.
5. Varone, Curt. "Fireground Photos, Facebook, and Discipline" Firewebblog.com <http://firelawblog.com >Path: social media; comments.
6. Calvert, Clay. "Salvaging Privacy & Tranquility from the Wreckage: Images of Death, Emotions of Distress & Remedies of Tort in the Age of the Internet." Heinonline, Michigan. 07, June, 2011. http://Heinonline.com.
7. Darryn, Cathryn Beckstrom. "Reconciling the Public Employee Speech Doctrine and Academic Speech after Garcetti v. Ceballos." Heinonline, Michigan. 07, June 2011. http://heinonline.com/. In a 5-to-4 decision authored by Justice Anthony Kennedy, the Supreme Court held that speech by a public official is only protected if it is engaged in as a private citizen, not if it is expressed as part of the official's public duties. Ceballos's employers were justified in taking action against him based on his testimony and cooperation with the defense, therefore, because it happened as part of his official duties. ""The fact that his duties sometimes required him to speak or write," Justice Kennedy wrote, "does not mean his supervisors were prohibited from evaluating his performance."
8. "Paramedic Fired for Posting Pictures Online," Firefightingnews.com 03, June 2011. <http://www.firefightingnews/article-US.cfm?articleID=31716>;.
9. "EMT's Rap for Ghoul 'Net Pic," NYPost.com 23, May 2011. http://www.nypost.com/p/news/regional/item_0F1q9xCRCOq59oI1O8gajO.
10. "NY Facebook Murder Photo Inspires Bill," EMS1.com. 20, May 2011. http://www.ems1.com Path: Ems; social media; Facebook.

11. Calvert, Clay. "The privacy of death: An Emergent Jurisprudence and Legal Rebuke to Media Exploitation and a Voyeuristic Culture," Heinonline, Michigan, 07, June 2011. http://heinonline.com.
12. Calvert, Clay. "Salvaging Privacy & Tranquility from the Wreckage: Images of Death, Emotions of Distress & Remedies of Tort in the Age of the Internet," Heinonline, Michigan. 07, June, 2011. <http://Heinonline.com>.

**KENT COLLINS** is a 19-year veteran of the Oklahoma City (OK) Fire Department and has been an EMT for 21 years. He is on the board of directors for Heartline Okc and 211, the suicide/compassionatecare hotline and the emergency information hotline, respectively, serving 76 of the 77 counties of Oklahoma. He has a bachelor's degree in microbiology and an associate degree in psychology. He has spent several years working with Web design and using social media to connect Web sites with users.



*Originally published May 1, 2012*

# Fire Department Performance Management: Is Public Policy on the Map?

*BY* **KAT SONIA THOMSON**

**IN THE 1970S,** the Fire Department of New York (FDNY) infamously embarked on a reduction in fire companies that largely fell on the shoulders of the communities suffering from the greatest number of fires in the city.[1] In 2003 and again in 2011, the FDNY, by and large, repeated this policy by placing cuts, planning additional cuts, and reducing staffing in the areas of the city that suffer the highest levels of structural fire loss, civilian casualty rates, and medical incidents. This article explains the underlying policy trade-off that takes place in the case of fire department allocation decisions by comparing the budget cuts in New York City (NYC) in the 1970s and those of today.

One of the biggest surprises of NYC's fire department resource allocation process is the remarkable lack of empirical research and analysis on the parts of the FDNY, the Mayor's Office, and other relevant public policy stakeholders such as think tanks or academia. As will be demonstrated, this lack of research can be disastrous from a public policy perspective. A theoretical explanation of the resource allocation policy trade-off is presented and followed by an analysis of fire and medical incident data for NYC between 2002 and 2010. The article will conclude with a discussion on the need to improve research and reporting processes in the public policy process of fire department management.

## THE PUBLIC POLICY TRADE-OFF

Practically speaking, NYC faces a trade-off between *equity*—described as a matter of equalized response times to all citizens guaranteed by equal placement of resources, regardless of hazard and *efficiency*, where companies could be clustered in proximity to known hazards.[2] This trade-off was first galvanized in the 1970s when Mayor John Lindsay tasked the NYC-RAND Institute with designing

mathematical models to more efficiently place fire companies. In a 1975 journal article reporting the success of their work, the RAND scientists explained the basis for their method in the following manner:

> The authors have used the response times of fire companies to fires as an operational measure of effectiveness, which relates well to the Department's objective of reducing loss of life and property. It is presumed that if a new policy results in shorter response times, it will also result in fewer lost lives and less property damage, even though the magnitude of the effects is unknown.[3]

The authors identified areas of the city with "favorable response times" and determined that a fire company could be closed in those areas "and still leave response time as good as or better than other regions of the same hazard."[4] The idea was to cut costs by "improving balance" in response times across areas of the city with similar hazard ratings. The balance was determined by a model of predicted response time as a function of the area and number of companies available.[5] Consequently, the RAND Institute recommendations resulted in relocations or closures of companies in areas of the lowest response times and opening of companies in the areas of high response times.

Beginning in the late 1970s, two scholars from Columbia University, Deborah Wallace and Roderick Wallace, wrote several academic articles critiquing the cuts and relocation of fire companies by the fire department as recommended by the RAND Institute. The scholars spent years looking at structural fire data and statistically analyzing the relationship between structural fire instance and issues of social policy in NYC. The authors summarized what they felt were key shortcomings of the RAND models for resource allocations, as follows:

> In addition to the strange statistical regularities, these criticisms included: (i) Questions of the appropriateness of model-calculated travel time as the principal design criterion for fire service, rather than empirical (i.e., data derived) indices of loss of life, injury, property damage and unit work and availability patterns, (ii) that RAND's 'analytic' models were 'validated' only by comparison with a simulation model, and grossly conflict with firefighting realities in New York City, (iii) the fire service cuts based on the RAND-HUD models caused severe degradation in virtually all empirical measures of fire-fighting effectiveness, and (iv) these declines in effectiveness appear to have triggered a geographically spreading recurrent fire epidemic which continues to consume neighborhoods in New York City.[6]

The Wallaces focused on two main policies in their critique—the 35 companies that were cut between 1972 and 1975 and the 1975 reduction in firefighter staffing levels of engines (from five firefighters per company to four) and ladder companies (from six to five).[7] By looking at the location of cuts and reduction in staffing with regard to incident data and subsequent incident increases, the Wallaces gave the startling finding that "the general pattern for removal of companies (was) from high fire incidence areas."[8]

## CASE STUDY: NYC 2003 and 2011 FIRE COMPANY CLOSINGS LIST

The following case study examines the location and potential effect of two rounds of firehouse closings in NYC using New York's Fire Incident Reporting System data spanning more than 21,000 structural fire incidents between 2002 and 2010. In 2003, Mayor Michael Bloomberg closed six fire companies. On May 18, 2011, the FDNY released a list of 20 additional companies that were slated to close. According to the fire department's Engine and Ladder Company Analysis Report,[9] the criteria used to generate the list of company closings for 2011 were based on three variables:

Figure 1

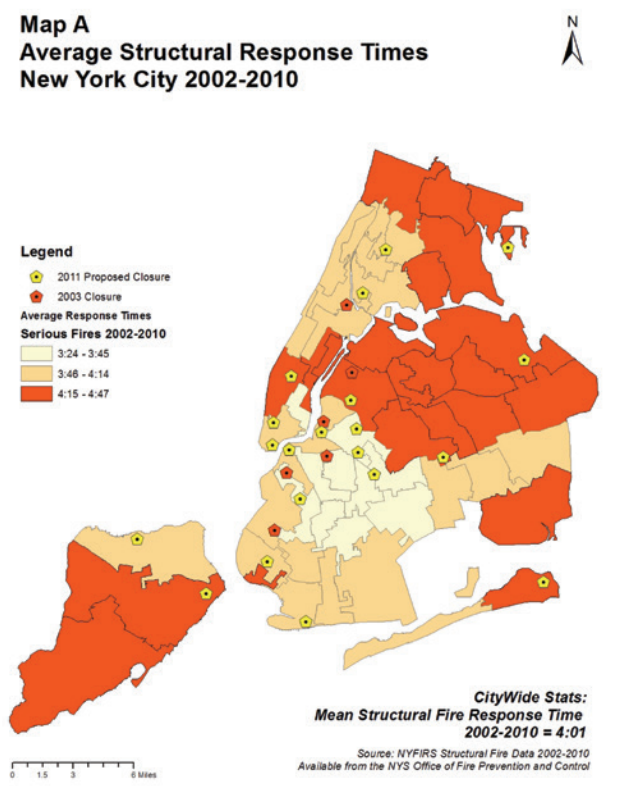
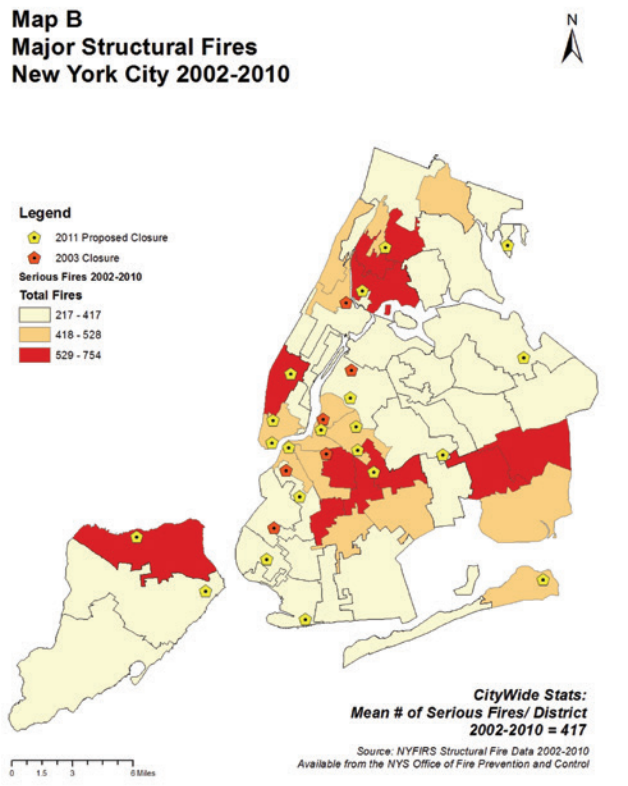



Figure 2



- Average apparatus response times for first- and second-due companies. It is not clear from the FDNY report whether response times include all incidents or structural fire incidents, as the report does not specify.
- Occupied structural workers per company. "Occupied structural workers" is used by the department as a representation of engine or ladder company workload. The problem with using this metric is that a run for a "food on the stove" incident is weighted equally to a run for a serious fire. To better reflect workloads, serious fire runs should be weighted more heavily.
- The number of runs (total and medical) completed by each company.

As a consequence of the three variables used to make closing decisions, most of the 20 companies slotted for closure as released by the FDNY in 2011 were in high-fire, high medical run instance neighborhoods. This gives weight to the conclusion that the trade-off aspect of service delivery the department sought to preserve was a minimal impact on overall average response times throughout the city. This approach is not the same as minimizing the impact of the cuts on outcomes (i.e., the preservation of life and property), as will be shown below.

**MINIMIZING RESPONSE TIMES VS. MINIMIZING LOSS**

This section depicts two types of metrics by which fire company allocation might be decided. The map on the left (Map A, Figure 1) considers the first metric—response times. Map A shows average response times for serious structural fires in the city over the period 2002-2010.[10] Each city council district is broken into one of three categories (below average, about average, and above average response times), based on actual incident response times. Overlaid on this map are the 2011 proposed company closings in addition to the 2003 closings. Here, we can see the current FDNY metric for closings at work: Companies are for the most part allocated for closure in areas with the lowest average response times (areas shaded light yellow). Companies are being pulled from these areas while companies in areas where higher than average response times exist (depicted in red) are for the most part left untouched.

Map A is essentially the only way in which the fire department is letting the public "see" the influence of the cuts (except the department does not provide these maps). The cuts, therefore, are met with weak resistance because they appear to have the least amount of "impact." Map B (Figure 2) tells an entirely

Figure 3

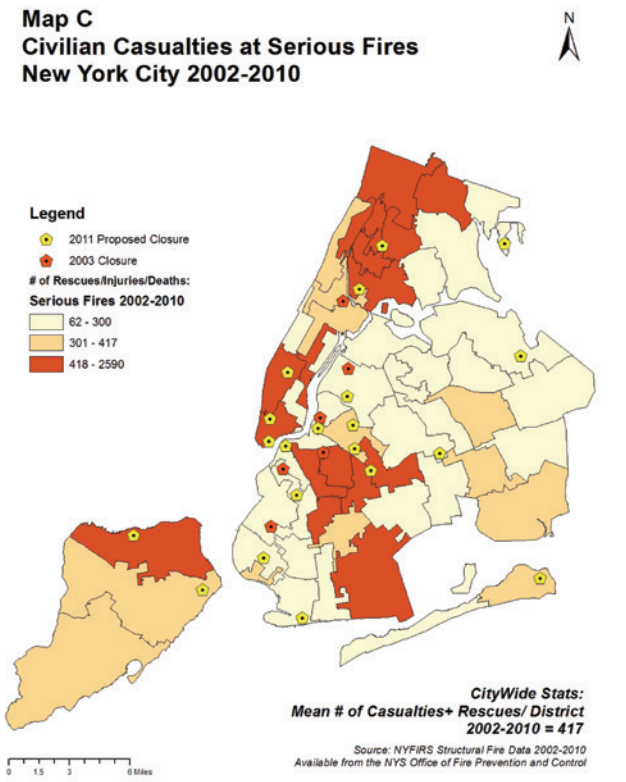
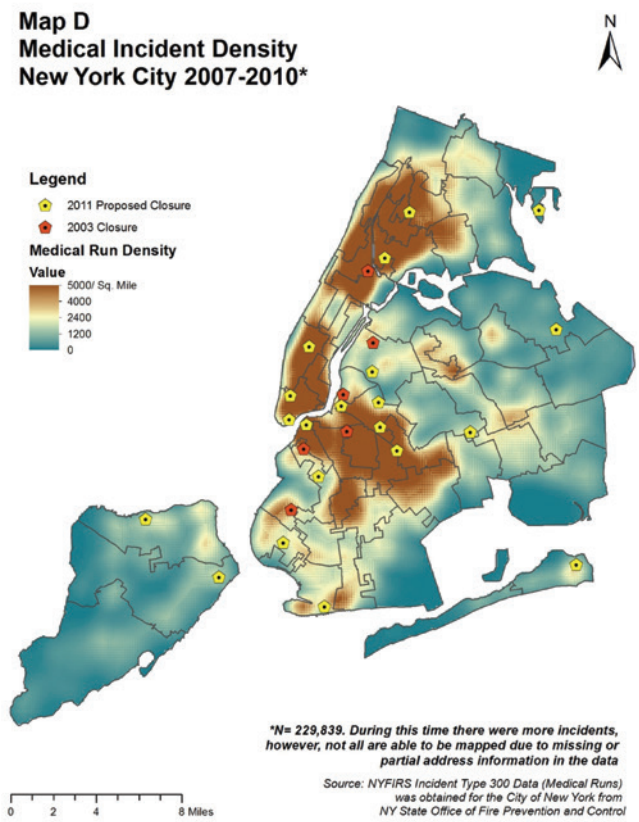



Figure 4




different story. Using the exact same data, a picture of the second metric—*fire hazard or need for protection*—emerges. Areas shaded in red illustrate areas of the city with the highest fire density and the increased phenomena of civilian casualty and property loss [see Map C (Figure 3) for civilian casualties from structural fire].

Medical incidents comprise the largest proportion of fire department calls. Map D (Figure 4) provides a picture of the relationship between company closures and areas of high medical run density. Across all three hazard maps, it is apparent that the locations of cuts coincide with the areas of the city that have heavy demand for protection. In fact, 21 of the 26 cuts are either directly in or immediately adjacent to areas with the highest fire and medical run instance in the city. These analyses are very basic, yet they clearly illustrate how a majority of the instituted (and proposed) cuts lie in the areas of the city that have the highest need for protection and the lowest average response times.

What Map A vs. Maps B, C, and D tell us is something very relevant about the geography of response times and incident hazard for NYC. Where the RAND

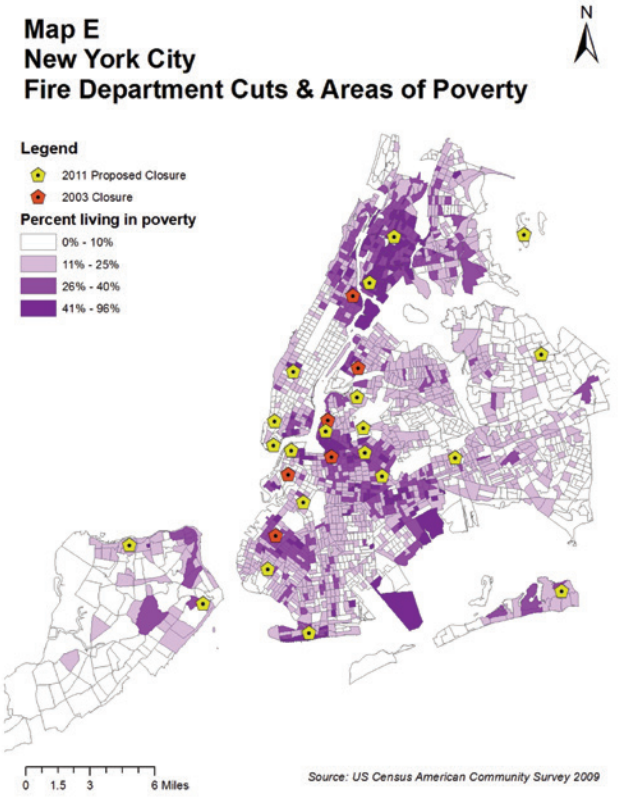
authors gave the impression that low response times coexisted with lower rates of loss of life and property by their models, in truth, low-response-time areas coexist with high-loss areas. The two are one and the same. That is because resource allocation ebbs and flows. In times of fire department growth, the city has historically placed companies in areas of high fire density, resulting in lower response times by additional resources, reducing travel times in high-instance areas. In times of budget cuts, these same areas become targeted for cuts by virtue of their response times, which is counterintuitive to the initial rationale for placing companies in these areas to begin with.

The use of response time minimization citywide as the primary means to mitigate property loss and civilian death rates during cuts is to say response times determine both. But it is the incidents themselves that cause property loss and civilian casualties. When it comes to allocation (whether it is new companies or cuts), the above demonstrated coexistence of low-response-time areas with high-loss areas reverses the prevailing intuition of decision-point hierarchy. Therefore, the department should preserve companies, first, in areas where incidents occur and, second, where longer response times exist. Otherwise, the horse is being placed before the cart.

## SO WHAT ABOUT PUBLIC POLICY?

It would be a disservice to the people of NYC not to attempt to identify the characteristics of those communities that will be affected by company closures. In the 1970s, the majority of areas experiencing a reduction in fire department protection were also the areas of the city facing the most economic hardship. Map E (Figure 5) shows how the cuts line up with areas of poverty in the city in both 2003 and 2011. Once again, there is a replication of the 1970s' impact in 2003 and 2011 from a public policy perspective. The areas of dark purple have the greatest

Figure 5



proportion of residents living in poverty, as calculated using five-year estimate data for 2006-2010 from the Census Bureau American Community Survey.[11] Map E looks very similar to Maps B, C, and D, indicating some correlation between poverty and fire/medical incident instance exists.

The visual relationship between structural fire and poverty presented in Map E can be validated by connecting census tracts to serious fires.[12] The 2,216 census tracts in NYC were joined with the 21,340 serious fires reported between 2002 and 2010. Next, the census tracts were partitioned into two groups based on the calculated mean value of nine serious fires per tract. Tracts containing between zero and nine serious fires were categorized as "low-fire tracts," for a total of 1,305 tracts. The remaining 913 census tracts experienced between 10 and 46 serious fires and were categorized as "high-fire tracts."

Table 1 provides a comparison of mean characteristics between low- and high-fire tracts, including population, income, occupancy status, family type, and poverty status. All means reported here are statistically significantly different from each other with greater than 99-percent confidence.

It is immediately apparent that areas of higher-than-average fire instance are very different from areas of low-fire instance. High-fire tracts are populated with lower-income residents, are composed of more single-parent households, have higher populations of children, contain greater proportions of people living in poverty, and have higher rates of renters than owners per population. Table 1 provides a very simple way of seeing the face of structural fire loss that has not been provided by the FDNY or by the

## Table 1.

**Comparison of Census Tracts by Structural Fire Instance**
**New York City Serious Fires, 2002-2010**
Number of tracts in the sample = 2,216
"High-Fire Tract" is defined as having higher than average (9) serious fires

| | Low-Fire Tract N=1,305 | High-Fire Tract N=911 |
|---|---|---|
| Mean (average) # of Serious Fires | 4.8 | 16.5 |
| Range of Serious Fires | 0-9 | 10-46 |
| Population | 2,785 | 5,124 |
| Median Household Income*** | $56,120 | $48,522 |
| Immigrant Population (Age 12+)*** | 151 | 352 |
| Single Male Households*** | 53 | 106 |
| Single Male Renters*** | 32 | 81 |
| Single Female Households | 153 | 406 |
| Single Female Renters*** | 94 | 336 |
| Children < 5*** | 189 | 370 |
| Percent Living in Poverty*** | 14% | 22% |
| Children < 18*** | 608 | 1,214 |
| Total Renters*** | 556 | 1,415 |
| Total Owners** | 436 | 509 |
| Renters per Population*** | 19% | 27% |
| Owners per Population*** | 16% | 10% |

*Source: American Community Survey 2006-2010 Estimates*
*Available at: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t*
*NYFIRS Data 2002-2010 Structural Fires (10-75 or Greater Alarms)*

Mayor's Office. If 21 out of 26 cuts line up with the areas of the city that have the highest fire instance, then it can also be concluded that the cuts are aimed at the most disadvantaged residents of the city. By definition, this is a "disproportionate impact."

Beyond recognizing the fact that fire instance correlates with areas of high poverty is the need to recognize the technical relationship between fire instance and structure type. Since 2007, the FDNY has recorded building type in its NYFIRS database; according to these data, serious fire occurs mostly in residentially occupied, nonfire-protected or wood-frame structures (see Table 2). Seventy-nine percent of serious fires between 2007 and 2010 occurred in nonfire-resistive or wood-frame structures. Not only are cuts lined up in high-fire density, high-poverty tracts, but the structures in these same areas are also the most vulnerable.[13]

Table 2.

**Serious Fires by Structure Type 2007-2010**

| Building Type | Number Of Fires | Percent |
|---|---|---|
| 1 - Fire Resistive Structure | 1,397 | 16% |
| 2 - Fire Protected Structure | 395 | 5% |
| 3 - Non-Fire Resistive Structure | 4,940 | 57% |
| 4 - Wood-Frame Structure | 1,949 | 22% |
| 5 - Metal Structure | 35 | 0.4% |
| 6 - Heavy Timber Structure | 25 | 0.3% |
| **Total** | **8,741** | **100** |

*Source: NYFIRS Data 2002-2010 Structural Fires (10-75 or Greater Alarms)*

Recall that the proportion of renters in high fire-instance areas is also much greater than the proportion of homeowners. Because renters are not required by law to be insured, there is no official way to estimate the number of uninsured. In the wake of the crane collapse in the Upper East Side of NYC in April 2008, a random survey of Upper East Side renters conducted by the New York State Insurance Department found only two out of 32 tenants had renter's insurance.[14]

The Insurance Research Council estimates that approximately 43 percent of renters were covered nationwide in 2008. However, an article appearing in Insurance Journal in 2008 estimated this number to be lower in NYC because of the high cost of living.[15] The structural phenomenon of high-fire-instance areas and the probable lack of contents insurance among renters combine to exacerbate the public policy impact of reducing fire protection.

Section 5.1 of the FDNY Strategic Plan states the department is planning to "better assess and quantify fire and hazard risk in the community in terms of

the possibility of loss or injury and assign defined, quantifiable values of risk and hazards."[16] The department is planning to establish a risk-based inspection program—the Coordinated Building Inspection and Data Analysis System (CBIDAS)—that will hinge on asset fragility and loss probability with the goal of improving both prevention and suppression response for the city. The FDNY calls the initiative "one of the most important management initiatives in the modern history of the FDNY," and says, "It will enable the FDNY to concentrate its fire prevention resources on the buildings and neighborhoods facing the greatest risk of serious fires."[17]

Such an initiative stands to fail if the fire department releases a list of company closures a year later that disproportionately target these same high-risk areas. The net effect is a reduction in building inspection capacity and protection. Essentially, the folks in prevention need to be chatting with the folks in protection to secure the best outcome for the city.

**RESPONSE TIMES 2010: A GLOBAL MEASURE PERSPECTIVE**

Since most policy recommendations (and critiques) surrounding fire department performance focus on response times as the predictor for actual outcomes, this next section provides a template for more comprehensive reporting. In Fiscal Year (FY) 2011, the FDNY reported the citywide average response time as four minutes and three seconds (4:03) for structural fires in its Vital Statistics.[18] Averages are generated by taking all of the structural response times for the entire city of New York, which are summed up and then divided by the total number of incidents. Because response time is reported for the city as a whole, this metric is considered to be a global measure of performance. At first glance, NYC residents are led to believe that they should receive a response time of approximately 4:03 for a given structural fire. This sounds very acceptable to the general public, and this simple average is the number the fire department hangs its hat on.

An estimate of average response time between late 2002 and 2010 reveals the FDNY 2011 estimate is essentially stable over a longer time frame using this same metric. During the nine-year period, serious fires on average received a response time of 4:01. What the simple average does not reveal are some other important characteristics of the data that should also be reported. For starters, the distribution of the data tells us that response times ranged from 0:00 minutes

to a maximum of 45:17.[19] Fortunately, only a very small portion of serious fires had a response time of 11 minutes or more (n = 40).

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*, is the national guideline. Section 5.2.4.1.1 states:

> The fire department's fire suppression resources shall be deployed to provide for the arrival of an engine company within a 240-second travel time to 90 percent of the incidents as established in Chapter 4.

**Figure 6**

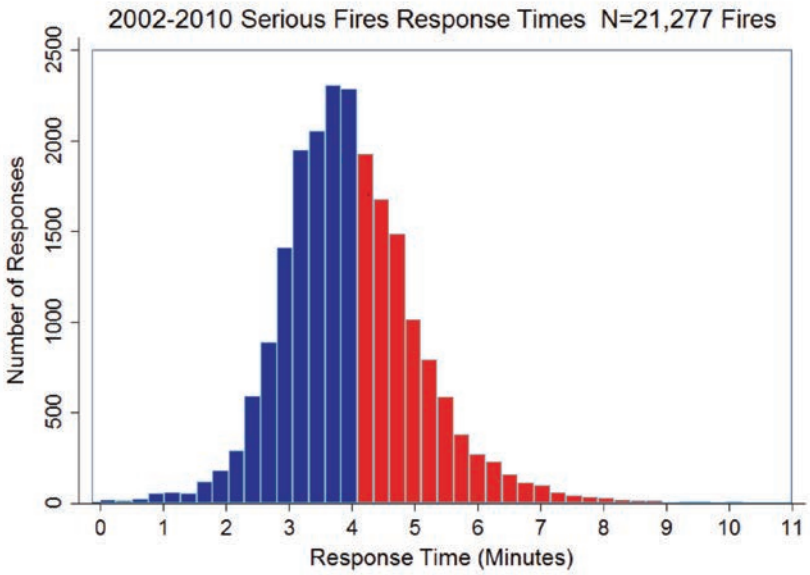



Figure 6 provides a graph of all response times that were less than 11 minutes (n = 1,300) for serious fires from the same period. Areas in red are the frequency of incidents that received a response time in excess of 4:00. Between late 2002 and 2010, a total of 9,731 serious fires, roughly 46 percent, exceeded the national guideline (see Table 3). By simply looking at the distribution of the data, we already have a better sense of what is going on citywide than is currently reported. The more comprehensive the analysis and reporting on global response time, the more likely the fire department is to best serve its constituents. But is this enough?

## Table 3.

**2002-2010 Serious Fires**

| Response Times | Cases | Percentage | Minimum | Maximum |
|---|---|---|---|---|
| Response Time = 4:00 or Less | 11,597 | 54% | 0 | 4 |
| Response Time Exceeds 4:00 | 9,731 | 46% | 4:01 | 14:50 |
| Total | 21,328 | 100% | | |

### RESPONSE TIMES 2002-2010: AN INTERNAL (LOCAL) MEASURE PERSPECTIVE

Deborah and Roderick Wallace of Columbia University advocate the value of looking at the micro (or community-level) perspective to pick up on the variance

in response times across communities. When the FDNY provides such an analysis, response times are reported at the fire company level. For example, in the 2011 Engine and Ladder Company Analysis, Engine 161, located at 278 McClean Ave. in Staten Island, was said to have a "First Arriving Travel Time" of 3:38. This sounds like an excellent response time, as it clearly falls well below the NFPA 1710 four-minute guideline. When I calculated the response times for the area in which Engine 161 is located, I find that the reality is much different. Fully 63.3 percent of all serious fires in that neighborhood since 2002 have received a response time that exceeds four minutes. The range of response times for that area ranges from 54 seconds to 14 minutes and six seconds. By the FDNY metric, we definitely have reason to believe that the area served by Engine 161 is faring well, but a more in-depth analysis shows how using the average alone does not tell the whole story.

By situating their response time analysis at the fire company level, the fire department keeps the impact fairly ambiguous because most citizens are not aware of where companies are located in the city. Table 4 lists the *areas* slated

## Table 4.

**FDNY Closure Criteria: Comparing Structural Response Time Impact**

| | | | First Arriving Travel Time | | | |
|---|---|---|---|---|---|---|
| | | | Author's Estimate: 2002-2010 Structural Incident Data, Serious Fires | | | |
| Proposed Closure | Council District | FDNY Estimate CY 10 Pre-Closing Response Time | Average (Mean) | Min. Response Time | Max. Response Time | % of Responses > 04:00 |
| E004 42 South St. Manhattan | 1 | 3:56 | 3:52 | 0:42 | 10:09 | 39.7% |
| L008 14 North Moore St. Manhattan | 1 | 3:52 | 3:52 | 0:42 | 10:09 | 39.7% |
| E026 220 West 37th St. Manhattan | 3 | 4:29 | 4:16 | 0:23 | 43:12 | 52.9% |
| L053 169 Schofield Ave. Bronx | 13 | 4:44 | 4:31 | 0:46 | 13:13 | 64.6% |
| E046 460 Cross Bronx Expwy. Bronx | 15 | 3:44 | 3:49 | 0:29 | 8:09 | 39.5% |
| E060 341 East 143rd St. Bronx | 17 | 3:24 | 3:55 | 0:34 | 12:15 | 41.3% |
| E306 40-18 214th Place Queens | 19 | 4:49 | 4:42 | 0:28 | 7:59 | 72.7% |
| L128 33-51 Greenpoint Ave. Queens | 26 | 5:31 | 4:23 | 0:00 | 8:34 | 61.0% |
| E294 101-20 Jamaica Ave. Queens | 30 | 3:40 | 4:19 | 1:35 | 10:03 | 54.0% |
| E328 16-19 Central Ave. Queens | 31 | 4:21 | 4:35 | 1:26 | 10:59 | 70.1% |
| E205 74 Middagh St. Brooklyn | 33 | 3:28 | 3:50 | 1:30 | 10:51 | 38.7% |
| E206 1201 Grand St. Brooklyn | 34 | 4:01 | 3:33 | 1:46 | 7:02 | 28.6% |
| E218 650 Hart St. Brooklyn | 34 | 3:16 | 3:33 | 1:46 | 7:02 | 28.6% |
| L104 161 South 2nd St. Brooklyn | 34 | 3:45 | 3:33 | 1:46 | 7:02 | 28.6% |
| E233 25 Rockaway Ave. Brooklyn | 37 | 3:08 | 3:25 | 1:26 | 7:55 | 21.3% |
| E220 530 11th St. Brooklyn | 39 | 3:38 | 3:45 | 1:14 | 9:25 | 37.6% |
| E284 1157 79th St. Brooklyn | 43 | 3:39 | 3:51 | 1:26 | 10:07 | 39.4% |
| L161 2929 W 8th St. Brooklyn | 47 | 4:39 | 4:02 | 0:00 | 45:17 | 40.1% |
| E157 1573 Castleton Ave. Staten Island | 49 | 3:26 | 3:59 | 0:32 | 31:46 | 44.6% |
| E161 278 McClean Ave. Staten Island | 50 | 3:38 | 4:47 | 0:54 | 14:06 | 63.3% |

for company closure as the unit of analysis to link the impact of the cuts back to the communities being affected. My estimates of response time averages for the affected areas are nearly identical to the fire department estimates for the apparatus; this is a reflection of the use of the same data and method. Taking the analysis just one step further than what is offered by the FDNY, a very problematic truth comes to the surface: Not a single area is in compliance with NFPA 1710, Section 5.2.4.1.1 in having 90 percent of its actual response times below the four-minute benchmark. It's not even close.

The closest area to meeting this guideline is Council District 37, where 21.3 percent of its responses exceeded the four-minute response time between late 2002 and 2010 (this is more than double the NFPA allowance). District 13 in the Bronx and Districts 19 and 31 in Queens suffer incredibly high response times; 64.6 percent, 72.7 percent, and 70.1 percent, respectively, of responses to the most critical fires are in excess of four minutes.

When the list of companies slated for closure was released, the fire department was the sole disseminator of response time data regarding the cuts and was, therefore, able to diminish the perception of impact. The public was in essence "guaranteed" a new response time by the fire department as the statement of a single predicted number, which is misleading. Exact methods employed by the FDNY in cut selection were not fully disseminated either; methodology should always be a common feature of a transparent policy-making process. The department did not provide the public or other stakeholders with an opportunity to scrutinize its methods by holding its closure selection criteria too close to the chest. The additional elements about response times at the internal (local) level using real data as provided here are not released by the fire department for good reason: For cuts to be politically viable, the impact must necessarily be underreported.

## APPLICABILITY OF NATIONAL STANDARDS

One of the concerns highlighted in a report by the Office of the Public Advocate with regard to the budget cuts of 2011 was the applicability of the NFPA model to NYC. NFPA 1710 provides the following definition for the typical building that firefighters from across the country should face:

> 5.2.4.2.2* … (is) a structure fire in a typical 2000 ft2 (186 m$^2$), two-story single-family dwelling without basement and with no exposures… (NFPA 1710, 2010, p.12)

In the above definition, "no exposures" means the building is not attached to an adjacent building. This "typical" structural fire scenario is the basis for the national standard dispatch protocol, and it is the primary criterion used to determine adequate staffing and resource levels most career fire departments adhere to. So exactly how "typical" are the buildings in NYC? According to data compiled from the NYC Department of Finance Mass Appraisal System File and the NYC Department of City Planning, only 12 percent of buildings in this city meet the criteria for a "standard structure." NYC remains an incredible outlier in terms of the complexity and expanse of protection area—or fire load. One in three buildings on average is greater than two stories, and there are almost 38,000 buildings that are five or more stories tall, and at least 9,060 buildings meet the definition of a high-rise (seven stories or 75 feet). Eighty-eight percent of our buildings are either attached or semiattached, have a full or partial basement, are above two stories, or are some combination of all three. Therefore, the FDNY is dealing with approximately 713,000 buildings that are more challenging to protect than the national "average structure" as defined by the NFPA.

Because New Yorkers are protected by the largest fire department in North America, residents might expect that they have the highest level of fire and emergency service protection in the country. The 40 largest cities in the United States were compared by the number of uniformed firefighters, engines, ladders, and firehouses per resident. NYC ranked 34th in terms of the level of fire protection per capita offered to its residents in 2010.[20]

The residents of Memphis, Tennessee; Cincinnati, Ohio; Pittsburgh, Pennsylvania; Rochester, New York; Baltimore, Maryland; Cleveland, Ohio; Newark, New Jersey; and Indianapolis, Indiana, were among the most adequately covered citizens of big cities. Memphis residents enjoy the coverage of 2.73 firefighters per 1,000 people, whereas New Yorkers are getting by on less than half that amount, at 1.33 firefighters per 1,000 residents. This number does not reflect daytime population gains to NYC and is, therefore, a conservative estimate.

There are 20 cities with more firefighters per capita than New York City, including Newark; Cincinnati and Columbus, Ohio; Boston, Massachusetts; Chicago, Illinois;

and San Francisco, California. New Yorkers have about a third of the engine coverage of neighboring Newark, with just 0.23 engines per 10,000 residents, whereas Newark has 0.61 engines per 10,000 residents. Indianapolis boasts 2.7 times more engines per resident than NYC. Compared to Cincinnati, NYC has 2.25 times fewer ladders—0.15 ladders per 10,000 residents compared to Cincinnati's 0.36/10,000. Indianapolis has 1.8 times as many fire trucks per 10,000 residents. Even Detroit can afford 1.5 times more trucks per 10,000 residents than NYC. In terms of firehouses, of the 40 cities surveyed, NYC is in last place, with just 1.25 firehouses available per 50,000 residents. Pittsburgh has almost four times the coverage, with 4.65 per 50,000 residents. An additional 24 cities all have at least twice as many firehouses per capita than NYC.

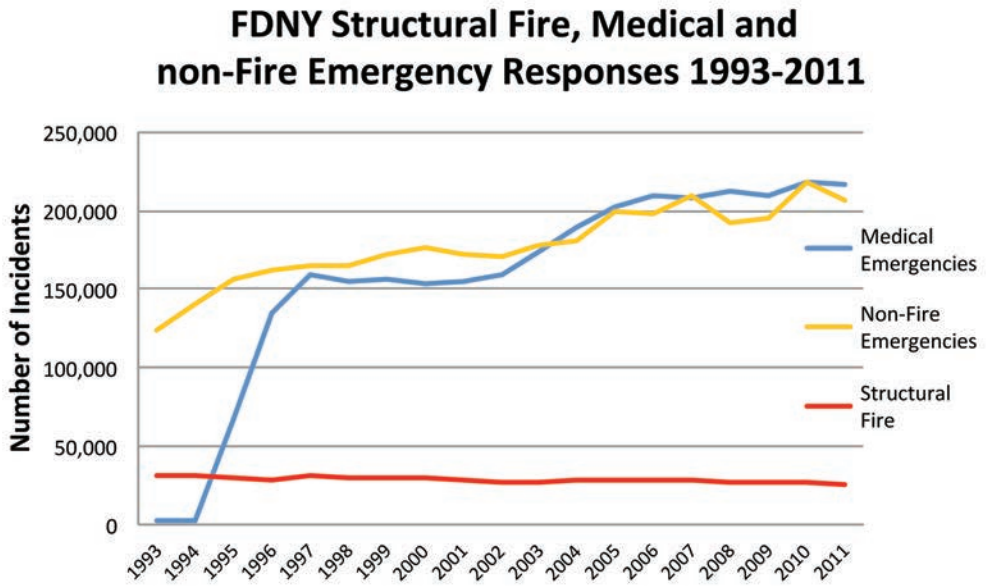
## ALIGNING MISSION WITH PERFORMANCE MANAGEMENT

The primary mission of the FDNY is the protection of life and property, as evidenced by the department's mission statement: "As first responders to fires, public safety and medical emergencies, disasters, and terrorist acts, FDNY protects the *lives and property* of New York City residents and visitors."[21]

In fulfillment of that mission, and in providing a summary of that mission to the public, the fire department releases an annual assessment of its performance with Vital Statistics, a two-page summary of half a million responses. The three main indicators cited from Vital Statistics by the department and the mayor are (1) response times, (2) the number of fires (structural and nonstructural), and (3) civilian deaths. By focusing on these three metrics, the department has been able to illustrate a positive picture of fire, emergency, and medical incident demands in New York City from year to year. Again, if we look at incident data in a different way, another story emerges. A graph of 20 years of incidents reveals an overall increase in nonfire emergency and medical responses in the past 20 years, with a relatively stable level of fire incidence in the big picture (Figure 7).

In addition to what is collected in NYFIRS, the FDNY keeps other large databases that detail data such as firefighter injuries and building characteristics. NYFIRS data are known for having errors and flaws, but part of their reliability (hence usability) exists in those variables generated by computer-aided dispatch, including incident type, address, arrival (response) time, and unit cleared times. Combined, fire department data have the capacity to deliver valuable information

Figure 7




regarding the protection of life and property that would help the FDNY make better decisions regarding the management and allocation of its resources. The following types of analyses are currently missing:

1. Maps of fire, emergency and medical incident instance, density, severity, frequency for the city, over time.
2. An analysis of patterns of displacement caused by fire damage in the city by occupancy type/use, structure type, and so on.
3. Surface maps of actual response times showing geographic areas of the city that tend to have higher than acceptable response times.
4. Maps of civilian casualties, including emergency medical runs, fire-related injuries, and rescues.
5. Analysis of the impact of simultaneous multiple alarms in the same geographic area on key outcomes such as property loss and civilian casualties.
6. Property loss and property saved.

In 2008, I was assigned to develop a means for the fire department to report property loss. The initiative was part of a larger project initiated by the commissioner of strategy and planning to improve performance measurement. I presented the FDNY with a host of viable property loss estimation methods, some of which could be generated in-house using NYFIRS data and International Code Council rebuilding cost data and others which could be acquisitioned through fire insurance payout data. Both had their limitations; however, in combination, the weaknesses of one method could be overcome by the incorporation of the other

method into the overall property loss estimate. At the end of the assignment, I managed to coordinate the delivery of five years of insurance payout data from fire loss, spanning 2002-2006 for all five boroughs across a host of occupancy types, aggregated to the borough level. The report and the data acquisition were never published or disseminated to the public.

Finally, I will restate the more subtle but relevant reporting and analysis flaw that should not be downplayed. By reporting key indicators such as the number of incidents, average response times, and occupied structural workers at the fire company level, there is a lack of connection with the actual area being served—and thus the people who are ultimately affected. This keeps the performance management of the fire department completely disconnected from the people who suffer from fire, emergency, and medical incidents—thereby rendering the perception of community impact intangible. This is why it is absolutely critical to place the analysis of emergency response allocation back where it belongs, with the area and the people it affects.

•••

The analysis and policy discussion presented in this article are by no means exhaustive or complete. So much more needs to be done. Still, this article helps to illuminate a crucial void in the public policy aspect of fire department management using NYC's 2003 and 2011 budget cuts as a case study. In the 1970s, 27 of the 35 cuts landed squarely in the areas of the highest need for protection. In 2003 and as proposed for 2011, at least 20 of the 26 cuts had the same problem. Whether cuts were formulated by the RAND Institute in the 1970s or by simplified average response time comparisons, as was done in 2011, it is clear that the policy tradeoff that won is *equity* of access through equalized response times instead of *efficiency*, by minimizing the impact on life and property.

External stakeholders such as the media and advocates of public policy were unable to pick up on or adequately critique the cuts in 2003 and 2011 because of the fire department's reporting deficit regarding the metric and the impact. The press could only weakly regurgitate the fire department's conclusions about the consequence. As a result, the repetition of the 1970s cuts in 2003 and 2011 went

unnoticed. A simple overlay of incidents with closures would have provided the empirical light bulb of the faulty metrics used in both eras.

At the very least, two key things need to happen: More stakeholders need to "weigh in" on this important policy trade-off, and a comprehensive analysis of the fire landscape needs to occur.

**Endnotes**

1. This conclusion was demonstrated in several academic journal articles by two Columbia University professors, Deborah and Roderick Wallace, and appeared in articles and books published in 1975, 1980, 1990, 1993, and 1998.
2. Kolesar, P and Walker, W. (1974) "An algorithm for the dynamic relocation of fire companies," Operations Research, 22(2):249-274, (quote from p. 250).
3. Ignall, E. et al, (1975). "Improving the deployment of New York City Fire Companies," Interfaces¸ 5(2):48-61, (quote from pp. 50-51).
4. Ibid., p.58.
5. The model to determine average travel distance and response time was known as the "square root model" and can be found detailed in several publications from RAND during the 1970s and as referenced throughout the 1975 Ignall, et al article.
6. Wallace, D and Wallace, R. (1980). RAND-HUD Fire Models, Management Science, 26(4);18-422 , (quote from p.419).
7. Note that these same policies were (are) on the table in New York City in 2011, with the 20 companies slated to close in addition to the reduction in staffing levels of 60 engine companies from five firefighters to four starting on February 1. In both cases, the cuts would be largely concentrated in the busiest areas of the city.
8. Wallace, R. and Wallace, D. (1979) Studies on the collapse of fire service in New York City 1972-1976: The impact of pseudoscience in public policy, University Press of America, Washington, D.C., (quote from p. ii).
9. The report is available at http://www.nypost.com/r/nypost/2011/05/18/media/2011ClosingDraft.PDF.
10. By looking only at serious structural alarms, this analysis provides a glimpse into incidents that carry the heaviest economic and social cost to New Yorkers. Obviously, there are several less damaging incidents that the FDNY respond to that should also factor into such an analysis of closures, and any conclusions here should be taken with that in mind.
11. Available at: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t.
12. A census tract is a small area of land with roughly similar populations that is the basis for dividing up the city for the census. There are 2,216 census tracts in New York City.

13. This claim is based on fire data and not on buildings data; the reader should bear this in mind.
14. Available at: http://www.insurancejournal.com/news east/2008/04/03/88813.htm.
15. Available at: http://www.insurancejournal.com/news/east/2008/04/03/88813.htm.
16. New York City Fire Department, Strategic Plan 2009-2010, p.16. Available at: http://www.nyc.gov/html/fdny/pdf/publications/FDNY_strategic_plan_2009_2010%20Final.pdf.
17. Ibid, p.11.
18. Available at: http://www.nyc.gov/html/fdny/pdf/vital_stats_2011.pdf.
19. A response time of zero minutes seems impossible; however, this is an actual data point from NYFIRS data.
20. The full benchmark survey results for the 40 largest cities are available at www.ufoa.org/fire_research.
21. Source: http://www.nyc.gov/html/fdny/html/general/mission.shtml.

**KAT SONIA THOMSON** first worked on performance management for the Fire Department of New York in 2008 and has been a fire operations research consultant in New York City since 2010. She is a PhD candidate at Columbia University, Teachers College. She also has 14 years of wildland fire operations experience and serves as an air attack officer with the province of Alberta in Canada.



*Originally published August 1, 2012*

# Company Description:

TargetSolutions delivers cutting-edge software applications, engaging online training courses, and world-class customer service. The company was founded in 1999 and today there are more than 2,000 organizations using TargetSolutions' innovative technology to solve their training challenges. TargetSolutions features more than 250 hours of Fire and EMS continuing education, as well as powerful applications for tracking ISO training hours, EMS recertification, and other training and compliance tasks. If you have any questions about TargetSolutions, please contact us at (800) 840-8048 or check online at www.targetsolutions.com.

**LINKS:**

- Watch Demo Video
- Learn More about TargetSolutions
- Hear What Our Clients Have to Say
- Find the Training You Need
- Fire Department ISO Reporting

TARGETSOLUTIONS

Technology with a Purpose

# OVERCOMING TECHNOLOGY

## HELPING THE FIRE SERVICE CONQUER ITS AVERSION TO ONLINE TRAINING AND OTHER INNOVATIVE SOLUTIONS

TARGETSOLUTIONS
Technology with a Purpose

# OVERCOMING TECHNOLOGY

HELPING THE FIRE SERVICE CONQUER ITS AVERSION TO ONLINE TRAINING AND OTHER INNOVATIVE SOLUTIONS

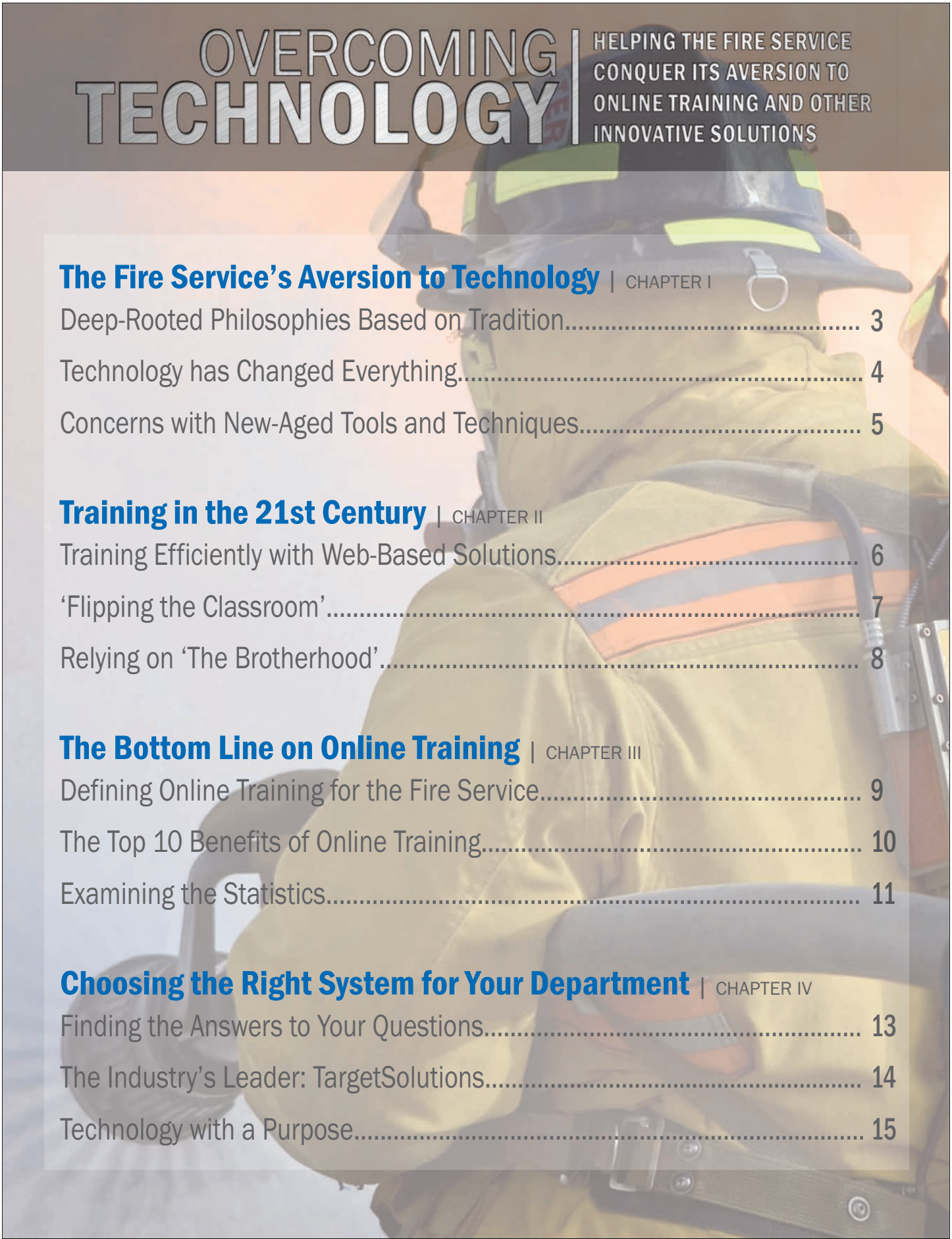
## Introduction

Few professions, if any, are more steeped in tradition than the fire service. The history of firefighting in the United States dates back to the 1600s, when volunteers patrolled the streets and formed bucket brigades to douse flames. Firehouses were social gathering places where a special, intrinsic culture among the brave souls willing to face other folks' greatest fears was formed. From the very start, firefighting was more than a job. It was a calling.

That embedded ethos explains why so many veterans of this vocation struggle breaking from custom practices. Many firefighters, whether they are full-time or volunteers, have been around for decades and sincerely appreciate the manner things have always worked. For many, there is no reason to change – no matter what kind of technological wizardry comes blistering along. Overcoming these types of outdated rationales is a critical challenge germane to today's fire service leaders. Welcoming the next generation's techniques, ideas and methods is paramount to future growth. For departments to maximize productivity, increase operational efficiency and decrease expenses, implementing new tools and resources is vital, experts say.

# OVERCOMING TECHNOLOGY

HELPING THE FIRE SERVICE CONQUER ITS AVERSION TO ONLINE TRAINING AND OTHER INNOVATIVE SOLUTIONS



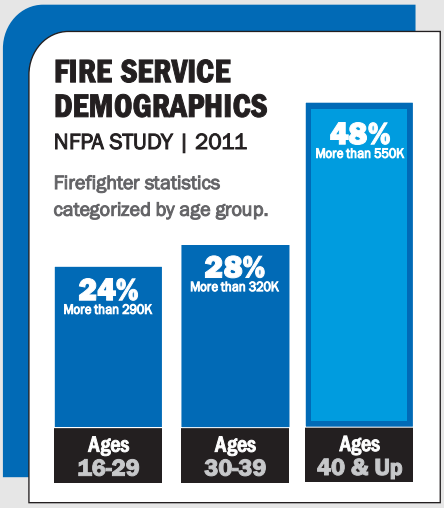
# The Fire Service's Aversion to Technology

## DEEP-ROOTED PHILOSOPHIES BASED ON TRADITION

Many firefighters have dogged opinions about operational procedures based on tradition. For many, nothing has changed from when the last generation entered the profession. Mindsets were cemented years ago and little can sway them now. Fire service experts, including Christopher J. Naum, SFPE, who has more than 37 years of field and operations experience and previously worked in command, operations and training capacities, believes these firmly-planted beliefs have created a wall that works to impede progress in the fire service, especially related to incident response. That wall permeates its way through the entire profession.

"Some circles of the fire service are not willing to accept what is being suggested," Naum said. "As data comes and new information challenges the perspectives of what firefighting is all about, it can be challenging. So many practices were built in the 1940s and 50s, suggesting change causes some people strife. Many take positions that are based on emotion. They are not looking at things from an empirical standpoint. With science and technology, change *can* be good. I believe we have to adjust to do our job and meet the needs of the public."

Naum says there is an immediate need for today's officers to increase their foundation of knowledge related to modern technology to safeguard personnel. That same need trickles down into the way training is completed and recorded. But to better understand this environment, it's important to understand the makeup of the profession today. This helps pinpoint current blockades and what steps can be taken to change perceptions about new resources in the fire service. The National Fire Protection Association released some interesting statistics in 2011 that analyzed the current conditions. The report declares there are more than 1.1 million firefighters currently serving in the United States. Of that number, 70 percent are from the volunteer ranks.



# TECHNOLOGY HAS CHANGED EVERYTHING

During the 1970s, the fire service became involved in Emergency Medical Services. It was the proverbial "game changer." Then, in the 80s, Hazmat came along. In the 90s, technical rescue took center stage. After 9/11, everything changed again and Urban Search and Rescue (USAR) was the new offering many organizations were compelled to provide. Thanks to hard work, training and dedication, the fire service has adapted and become proficient at delivering whatever service is necessary to protect life, land and property.

**FIRE FACT**

**65 PERCENT**

ACCORDING TO THE NFPA's STUDY IN 2011, THE TOTAL NUMBER OF FIREFIGHTER RESPONSES WAS 26.5 MILLION IN 2009. OF THOSE INCIDENTS, 65 PERCENT WERE MEDICAL ASSISTANCE CALLS (MORE THAN 17 MILLION CALLS). THIS REPRESENTED AN 8.5 PERCENT INCREASE OVER '08.

During the transformation, innovative technological advancements have helped ease the transition and improve overall performance. For instance, Scott Health and Safety's Self-Contained Breathing Apparatus revolutionized the way firefighters operated in the 1980s. Around that time, Nomex clothing replaced older, less effective turnout gear. From that point on, coats, helmets and gloves have continued to evolve making it possible for firefighters to go deeper into the eye of the fire than ever before. Advanced PPE, more powerful hose nozzles and better communication tools have all contributed to improved incident response. When Alan Brunacini's Fire Ground Command System entered the picture in the 80s, the fire service was truly on its way to being modernized.

"That's when you started to see computers introduced into apparatus, the CAD system, and so many layers with so many pieces. From there the fire service has truly changed every single year," said Naum. "Now that we're in the 21st century, technology has taken root. It seems like every day, there is something different. ... Technological advancements will continue to challenge firefighting practices. But structural firefighting still requires brute strength and sheer physical determination. That is still what gets the job done under the most demanding of circumstances."

***"THE FIRE SERVICE LIVES ON TRADITION AND CHANGE CAN BE DIFFICULT. CHANGE HAPPENS SLOWLY. WHEN I WAS HIRED IN THE 80s, WE DIDN'T HAVE A COMPUTER IN THE STATION. FAST FOWARD 30 YEARS AND NOW ALL OF OUR REPORTING FOR EVERYTHING IS NOW DONE ON THE COMPUTER."***

**DAN COLLINS**
Training Captain, Cal Fire San Diego

# CONCERNS WITH NEW-AGED TOOLS AND TECHNIQUES

Many veterans of the fire service are resolute in their objection to the never-ending and massive influx of technology into the profession; most notably, the utilization of computers in everyday operations. Dealing with these aged mindsets can be challenging for even the most tolerant fire chief, whose main obligation is to make prudent decisions that will benefit his or her jurisdiction. But dismissing unhappy members' concerns without consideration can be detrimental and create distress for departments.

"I think the more tenured fire service members are usually the slowest to adapt to technology and it really caught me off guard early on in my time as a fire chief," said Dr. Richard Gasaway, who spent more than 20 years of his career as a chief in Ohio and Minnesota and is now considered one of the nation's leading authorities on situational awareness for first responders.

"I tried to improve our department's communication with an intranet system, and even with that, there were many members who didn't know how to access a website, at that time," Gasaway said. "There were people who said to me, 'I don't know how to log on to the Internet.' I had made a terrible assumption about people's general knowledge of technology. I had some older members who went haywire and thought I was overloading them with technology. They were unprepared and I was unprepared for just how unprepared they were. I think the real issue was that some of the older individuals feared looking foolish for not knowing how to do it. But after a little time, we got everyone dialed in and taught them what they needed to know."

Even an avid supporter of technology like Gasaway, however, acknowledges potential pitfalls. There is such thing as "technology overload," he said, especially as applications advance, creating an excess of new techniques and tools that have the potential to over-complicate operations on the fireground.

"There are so many complex things out there with so many complex features, it can be difficult for the front-end user, especially under duress," Gasaway said. "It's like being at a restaurant; it's a lot easier to order when there are eight things on the menu, instead of thousands. So, technology has dramatically changed things. There is a push to get new technology in the hands of commanders in the form of tablets for tracking firefighters' locations and biometrics in real time. ... This is all to assist situational awareness, but it can be such a massive amount of data, that it makes things more difficult to process. Commanders are at risk of missing what's happening at the incident scene because they've got their face in the computer. Things happen at the blink of an eye and are so dynamic, they can easily miss something.

"I don't think we're going to be able to stop advances in technology. Nor should we," Gasaway said. "However, I do think we need to understand our vulnerabilities as humans operating under stress and the impact that complex information can have on our situational awareness and decision making. ... If we don't acknowledge this and be prepared for it, in advance, we risk technology reducing safety instead of improving it. And none of us want that to be the result."

Experts like Gasaway say sound firefighting fundamentals through comprehensive training are essential to alleviating over-dependency on electronics during operations. While technology has certainly made a positive impact on the profession and improved many capabilities, it's critical for departments that firefighters continue to meet mandated training requirements while leveraging technology solutions that improve efficiencies.

# Training in the 21st Century

## TRAINING EFFICIENTLY WITH WEB-BASED SOLUTIONS

Without question technology will continue to evolve and impact emergency response. That much is certain. The question is how much technology is too much as it relates to training? Does reducing traditional classroom learning and completing mandated requirements through a web-based solution impede students' ability to retain critical training material? Are those with "technophobia" in regards to education "on the cloud" justified in their criticism? All of these understandable questions have been asked, but experts contend they shouldn't impede organizations from implementing innovative methods into their training programs.

It's important to note firefighters will always need didactic training for practicing their fundamental responsibilities. Nothing will ever completely eradicate "hands-on" training. But influential think-tanks like the National Fire Protection Association understand the need for organizations to implement sustainable alternatives like Internet-Based Distribution Learning, commonly referred to as online training, in an effort to cost-effectively streamline compliance. EMS recertification is a perfect example. The National Association of EMS Educators encourages the use of accredited web-based training throughout EMS education whenever it is advantageous for educating personnel.

**FIRE FACT**

**3.5 MILLION**

ACCORDING TO WIKIPEDIA, BY 2006 MORE THAN 3.5 MILLION STUDENTS WERE USING ONLINE TRAINING OR E-LEARNING. THAT NUMBER INCREASED AT 12 TO 14 PERCENT PER YEAR BETWEEN '06 AND '09, COMPARED TO A RISE OF 2 PERCENT IN REGULAR ENROLLMENT, WIKIPEDIA REPORTS.

NAEMSE's "position paper" on the topic concludes, "Internet-Based Distributed Learning (IBDL or online training) is a powerful and effective vehicle that can incorporate a variety of learning methods and activities across the spectrum of EMS education. IBDL allows for creative combinations of text, animation, video, hypertext linking, drill and self-tests with immediate feedback, and group learning via discussion boards, live chat, e-mail or audio-video conferencing. Further, well-designed IBDL offers adults more control over their learning, while providing a vehicle for instructional strategies tailored to their individual learning style."

# ‘FLIPPING THE CLASSROOM’

Experts accept the fact online training has proven to be an effective tool for developing students’ cognitive and psychomotor skills, but some claim it is best implemented as an enhancement to traditional instruction. Utilizing online training as part of a “multi-pronged approach” provides the most educational benefit, according to Eddie Buchanan, past president of the International Society of Fire Service Instructors.

“Technology is a vehicle to assist in the learning process and I believe there’s a change coming in regards to education in the fire service – and general education as a whole, really,” Buchanan said. “Technology is a portal to a new way of thinking about education. We use the term ‘flipping the classroom.’ What used to be homework is now pre-work. Before the class session, a student does pre-work at home which is now the lecture, and the technology is the vehicle to get that information to them before they go to the classroom. Now, when the student physically shows up, they can focus on discussion or hands-on application of the new material.”

This technique requires instructors to obtain a whole new set of skills. Rather than the typical format of standing in front of a classroom providing PowerPoint-aided lectures, Buchanan sees a more “student-centered delivery.” Time in the classroom will be spent analyzing material that has already been reviewed, increasing discussion and interaction. “As instructors, it’s about facilitating the learning,” Buchanan said. “So, it’s a completely different type of environment and skill set instructors are looking at over the next 10 years.”

## ONLINE TRAINING & THE FIRE SERVICE

MILLERPIERCE STUDY | 2012

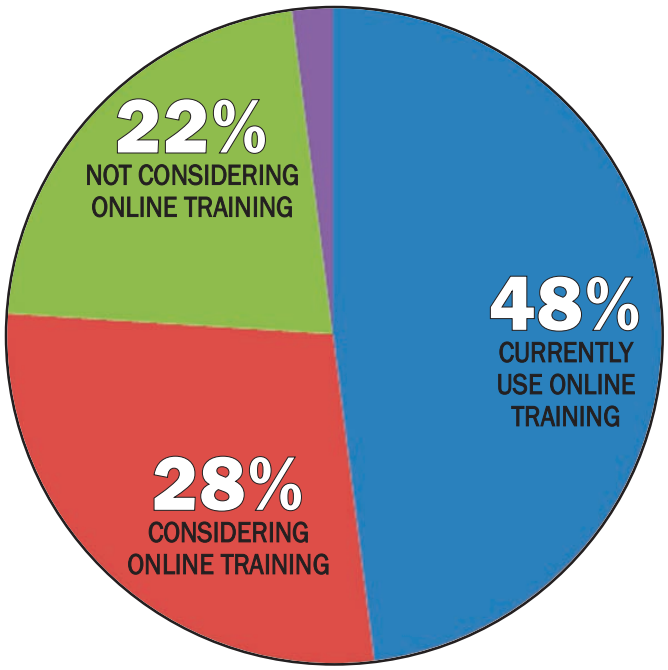
Statistics taken from marketing survey of more than 350 fire service personnel of various ranks and categorized by answer submissions. Survey determined 76 percent of the industry considers online training to be a viable training alternative.

**48%** CURRENTLY USE ONLINE TRAINING

**28%** CONSIDERING ONLINE TRAINING

**22%** NOT CONSIDERING ONLINE TRAINING

**2%** OTHER



# RELYING ON 'THE BROTHERHOOD'

No matter how much support online training receives from academia, there will be those who are reluctant to appreciate the wisdom of new-fangled web-based techniques. So what steps should a training officer or fire chief take to convince skeptics in their own organization? The answer is comprehensive internal communications, informative training in regards to operating new technology and most of all patience, according to Cal Fire San Diego's Dan Collins.

As a training captain, Collins has witnessed the way computer-based online training and recordkeeping have been incorporated into his department's training curriculum. He knows firsthand how some of his colleagues reacted initially, and how they overcame their reservations with new procedures.

"The fire service lives on tradition and change can be difficult," Collins said. "Change happens slowly. When I was hired in the 80s, we didn't have a computer in the station. Fast forward 30 years and now all of our reporting for everything is now done on the computer. Training is just one thing we do on the computer. I have memories of us putting fires out without having computers and electronics. Now, I don't know if we could."

At San Angelo Fire Department deep in the heart of Texas, where tradition runs even deeper, there was a significant backlash to training "on the cloud" when the department announced its transition in the spring of 2010. That's when the "brotherhood" came into play, according to EMS Instructor Santos Elizondo. The department's younger employees came to the aid of their more senior coworkers and helped them understand the flexibility and superiority to completing mandated training requirements online.

"The younger guys brought them in and helped show them how," Elizondo said. "It's a brotherhood. The younger guys couldn't do the assignments for them, but they really made it a family affair. The younger guys took care of the older guys – so while the older guys were teaching the physical side of things, the younger guys were teaching the technical side. Eventually everyone was going in the same direction."

***"TECHNOLOGICAL ADVANCEMENTS WILL CONTINUE TO CHALLENGE FIREFIGHTING PRACTICES. BUT STRUCTURAL FIREFIGHTING STILL REQUIRES BRUTE STRENGTH AND SHEER PHYSICAL DETERMINATION. THAT IS STILL WHAT GETS THE JOB DONE UNDER THE MOST DEMANDING CIRCUMSTANCES."***

**CHRISTOPHER J. NAUM,** SFPE
Executive Producer, buildingsonfire.com

# The Bottom Line on Online Training

## DEFINING ONLINE TRAINING FOR THE FIRE SERVICE

Online training is a popular vehicle for Fire and EMS agencies because of its accessibility and affordability. It's convenient for completing mandated federal, state and local training requirements. Studies have shown it to be an effective mode for educating students and users generally like it. All of these facts indicate it's only a matter of time before an overwhelming majority of organizations serving in emergency response utilize this expedient, sustainable method for carrying out training obligations.

It's important to understand what differentiates online training from traditional techniques. Online training is delivered over the Internet where it is available 24 hours a day, seven days a week. Service providers, deliver organizations, most notably Fire and EMS divisions, with access to a password-protected website where they can login and complete training assignments, including courses that have been accredited by various regulatory agencies, including the Continuing Education Coordinating Board for Emergency Medical Services (CECBEMS). Online training should not be considered a replacement to hands-on training. It is a supplement that helps organizations achieve total compliance more efficiently.

**ONLINE VS. TRADITIONAL?**
Online training is not a replacement for hands-on training. It is a supplement that helps organizations achieve total compliance more efficiently.

Assignments are facilitated by site administrators who schedule and deliver them to their users through a web-based learning management system. Courses can or cannot feature interactive lessons, videos, audio and randomly-generated tests. Sometimes courses have time requirements that are usually editable by site administrators. Innovative applications, like alert notifications, e-signatures and record-keeping tools for tracking critical information help administrators effectively manage their users' training requirements. Online courses can meet students' needs for initial training, continuing education and refresher training. The industry, which is not solely relegated to Fire and EMS, is still growing with estimated revenues approaching $12 billion. It reached new levels of acceptability when personal computers became mainstream in the 1990s and is now a central means for acquiring educational credit for thousands of students at schools, colleges and universities across the country.

# THE TOP 10 BENEFITS OF ONLINE TRAINING

The fact is online training is a valuable and economical way to provide emergency responders with vital continuing education, while improving an organization's overall productivity. Here are 10 key benefits associated with online training:

**>> Ensuring Compliance:** Whether it's a federal, state or local regulation, fire departments, EMS agencies and other public entities have requirements and workforce training expectations they need to satisfy. With accredited online training, they have the ability to meet necessary standards.

**>> Cost Savings:** Instructor-led training is expensive and oftentimes inefficient. Supplementing training with online courses reduces the number of necessary classroom sessions, as well as administrative expenses, including overtime, fuel reimbursements, instructor costs and more. When used in combination with classroom work, online training is considered even more effective, experts say.

**>> Overall Convenience:** Online training is available 24/7 anywhere there is an Internet connection. Users can complete mandatory requirements while on duty in the station, off duty at home, or anywhere in the world on their mobile applications if necessary. This flexibility greatly reduces the need to schedule training activities that rarely achieve 100 percent attendance.

**>> Improved Response Times:** More convenient modes for completing training lead to improved response times as emergency responders are able to complete training on their own time. This keeps them in their own territories while on-duty, eliminating the need for time-consuming company-wide activities that take personnel out of service.

**>> Increased Comprehension:** Users are able to complete courses and videos at their own pace, helping increase material retention and memorization. Studies have demonstrated online training increases topic knowledge and should not be seen as less effective than traditional classroom sessions.

**>> Confirm Delivery:** Making sure employees have received mandated training the old fashioned way is cumbersome and out-dated. Delivering training activities through a modernized learning management system is simple and efficient. With just a few clicks, everyone's training can be assigned and then monitored.

**>> Alert Notifications:** Administrators will feel confident knowing training assignments are not going to slip through the cracks. E-mail alerts that can be scheduled at any frequency an administrator desires, keep personnel and management aware of upcoming deadlines and expirations.

**>> Training Management:** Cutting-edge learning management systems provide administrators with the ability to easily monitor assignment completions in real time and generate comprehensive data reports, making recordkeeping and data tracking simple and efficient.

**>> Reduce Liability:** Online training has proven to change behaviors that lead to injuries and other unfortunate workplace-related incidents. Also, by utilizing technology, administrators will create a paper trail to document compliance and serve as proof of completed training in case of litigation, as well as important audits. Studies show that effective online training changes unsafe behaviors that lead to costly workers' compensation claims and overtime costs.

**>> Go Paperless:** Agencies can "go green" and store files electronically with most modernized learning management systems, eliminating the need for endless paper records through online training platforms.

# EXAMINING THE STATISTICS

A survey of more than 350 fire service professionals by the marketing firm MillerPierce in late 2011, determined that almost half (48 percent) of the respondents' departments are already using online training. Twenty-eight percent said they were currently considering making the switch. That means more than three-fourths of the fire service is on its way to completing training online. The study showed a diverse number of online training systems are currently being used, but the most popular service providers mentioned in the survey were TargetSolutions (the leader at 14 percent), MyFireHouseTraining (10 percent) and CentreLearn (6 percent). EMS and NFPA courses are the most common courses sought. The survey also discerned that the largest concerns about online training are material comprehension and a cutback in hands-on training. The No. 1 barrier to implementing right away is budget constraints, respondents said. On the positive side, easy accessibility and decreasing expenses are the single greatest motivators.

A separate survey conducted by RFG Research during the second quarter of 2011 captured data from more than 1,000 respondents. This survey was a follow up to a previous iteration of the survey RFG Research completed in August of 2009. The survey determined 87.2 percent of Fire and EMS agencies currently using online training have achieved lower overtime costs. In addition, 57.6 percent achieved a decrease in instructor-led training costs and 57.3 percent achieved fuel and vehicle savings. Respondents were also quizzed about how online training benefited organizational operations. Eighty-eight percent said they experienced greater convenience in training times, 77.2 percent experienced easier distribution of content, 66.7 percent experienced easier maintenance of training records and 66.4 percent experienced simplified scheduling of training.

# ONLINE TRAINING & THE FIRE SERVICE

RFG RESEARCH STUDY | Q2 2011

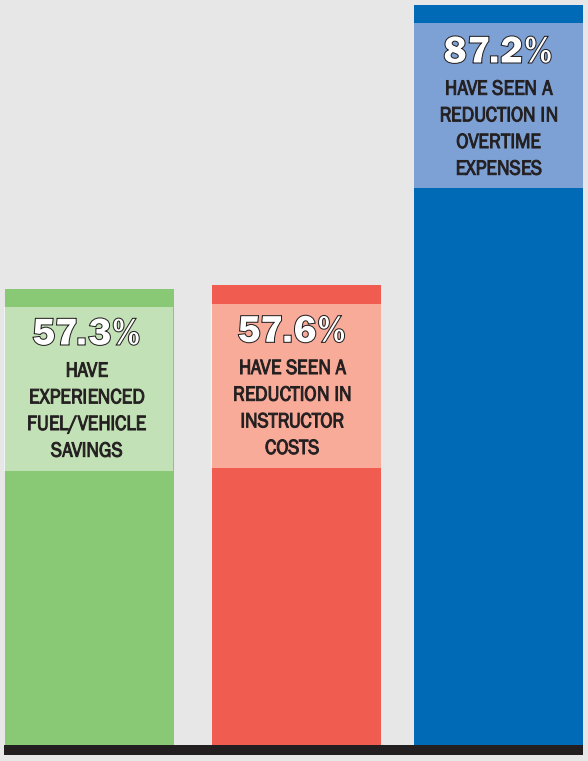
## **Table 1:** Financial Benefits Reported

RFG Research invited 1,055 respondents obtained from a database of a leading emergency response trade journal to participate in a survey titled "National Benefits of Online Learning in Fire & EMS Survey" during Q2 of 2011. A total of 1,011 respondents completed the survey. The survey states that "the self-selecting nature of online surveys makes it more difficult to draw far-reaching conclusions about all users of online learning within fire and EMS agencies. However, the survey does describe specific benefits experienced by respondents and provides useful comparative data to agencies considering implementing online education. ... The results also suggest that a significant majority of fire and EMS agencies using online learning are achieving financial and administrative benefits."

**87.2%** REDUCTION IN OVERTIME COSTS

**57.6%** REDUCTION IN INSTRUCTOR COSTS

**57.3%** EXPERIENCED FUEL, VEHICLE SAVINGS




## **Table 2:** Operational Benefits Reported

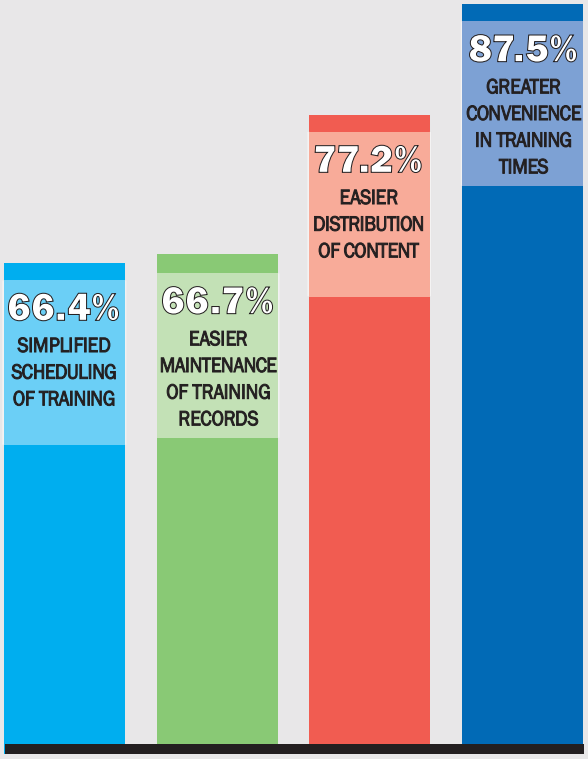
The survey stated that "as EMS and fire budgets are squeezed tighter and tighter, nearly 45 percent of respondents said that if faced with significant budget cuts within the organization, use of online learning within the department would increase." The survey did not attempt to compare vendors against one another, RFG Research states. For more information on RFG Research, please check online at www.rfgresearch.com.

**87.5%** MORE CONVENIENCE WITH TRAINING TIMES

**77.2%** EASIER DISTRIBUTION OF CONTENT

**66.7%** EASIER TO MAINTAIN TRAINING RECORDS

**66.4%** SCHEDULING TRAINING IS SIMPLIFIED



# Choosing the Right System for Your Department

## FINDING THE ANSWERS TO YOUR QUESTIONS

Fire departments and other organizations that are working through their concerns about applying the latest technologies like online training and powerful recordkeeping remain on the sidelines. But in today's environment, the need to operate more efficiently, decrease training expenses and maximize productivity is only magnified on a daily basis. For many departments, switching to an online training provider that will facilitate the process is inevitable. The question is when, not if, the switch happens. Numerous companies are competing for your business. Here are six key factors to consider when selecting an online training provider:

**Are Current Clients Happy?** With dozens of competitors offering Fire and EMS training online, it's important to select a provider with a proven track record of success. Find out what other departments who have implemented a web-based training system think of their platform. Request referrals to determine just how satisfied clients are with their provider. Read case study articles to learn how different providers are helping departments with similar issues.

**What is the Quality of Training?** If you're focused on maintaining compliance, make sure the company you select has met accreditation standards in your state. Not all companies have total accreditation. Also, find out if courses offer engaging interactivity and multimedia. You'll want to know how often courses are updated, if coursework is cross-browser compatible, if users are able to pause their place in the middle of courses and if there are randomly-generated tests with each course. All of these factors will impact your department's experience.

**What is the Return-on-Investment?** If you're looking for the absolute cheapest system, you may regret your decision. Costs vary based on the breadth of the platform's tools and applications. It's possible to find free coursework on the Internet, but to effectively disseminate training and track its results effectively you will need a powerful training management platform. Before contacting a service provider, determine what you're spending on training now – including total administrative costs for instructor-led sessions – and compare that to what the new platform will save in time and expenses.

**Can You Deliver SCORM and Other Customized Content?** SCORM, which stands for Sharable Content Object Reference Model, makes sure e-learn-

**ANSWERS** CONTINUED ON PAGE 14

**ANSWERS** FROM PAGE 13

ing content and learning management systems are compatible. If you're looking to disseminate customized training materials as coursework, make sure the platform you're selecting is SCORM compliant. Also, consider your organization's need for additional features that provide the ability to store and deliver customized files, documents and communications with e-signatures. Not all platforms offer this functionality.

**Does the System Track Training Effectively?** Does your department need to meet and report training standards? If reporting for an audit is a concern, you are probably looking for a powerful tracking system. Determine what providers feature tools that will allow your department to cost-effectively maintain compliance, monitor licenses and credentials and generate comprehensive training reports.

**What About Technology Infrastructure and Customer Support?** Make sure the web-based provider you select delivers a sound and secure database with a detailed disaster-recovery plan. The industry's benchmark for system uptime is 99.9 percent. Anything less is concerning. Also, make sure your provider delivers first-class customer service. Every company says it will, but current clients can let you know what to truly expect.

**ISO TRACKING**

**If your organization faces audits by ISO, it's critical to obtain a records management system with powerful tracking capabilities. TargetSolutions offers the industry's most comprehensive tool for ISO.**

# THE INDUSTRY'S LEADER: TARGETSOLUTIONS

Founded in 1999, TargetSolutions is the industry's pioneer in web-based training and records management solutions for public entities. The San Diego-based company currently solves the needs of more than 2,000 organizations across North America and also exceeds all of the qualifications listed in this white paper. TargetSolutions is focused on serving clients in markets with stringent workforce training requirements who are looking to meet compliance standards, enhance their learning experience, improve employee effectiveness and reduce costs.

TargetSolutions' industry-leading training management platform is comprised of three primary components: training coursework (more than 700 training courses, including 250 hours of accredited Fire and EMS recertification), a learning management system (LMS) and a records management system (RMS). By combining market-specific multimedia content comprised of traditional subject matter text, streaming video and audio, as well as case studies and other interactive exercises, students benefit from the highest quality of asynchronous learning available. Internet delivery through the LMS makes TargetSolutions accessible and training administrators can easily track student progress, plus report on workforce preparedness through the RMS.

"Our goal is to deliver easy-to-use technology that can help an organization improve productivity and save money," said TargetSolutions Executive Vice President of Sales Thom Woodward. "With our platform, organizations can schedule training and monitor compliance 24 hours a day, seven days a week. Our training has proven to reduce injuries and claims, resulting in an excellent return on investment."

# TECHNOLOGY WITH A PURPOSE

TargetSolutions is the industry's leader thanks to its robust online training catalog, its easy-to-use and intuitive platform, its unrivaled recordkeeping applications and its exceptional customer service. Since its inception, TargetSolutions has been focused on helping public entities maximize their training experience. Still, more than a decade later, the same challenge presents itself: Convincing skeptics about the effectiveness of delivering training over the Internet.

As the pioneer in online training for public entities, TargetSolutions endured the initial backlash. The idea of web-based training courses was roundly rejected in the early days. The company was founded in 1999 as a safety training business under the name TargetSafety. Training courses were originally offered as CD-ROMs before being moved over to HTML when the Internet took ablaze. But many who voiced doubts during the early days are now believers in TargetSolutions, which changed its name to TargetSolutions in late 2011 to better depict the company's full-range of services.

Undeterred, TargetSolutions continues working diligently to this day to change minds. Some departments still struggle with the concept of replacing didactic training with an Internet-Based Distance Learning provider. The truth is online training platforms should be seen as a supplement to effective hands-on training, not a complete replacement. Online training is a cost-effective solution to make meeting compliance easier and more efficient. Just *much* easier, and *much* more efficient.

***"OUR GOAL IS TO DELIVER EASY-TO-USE TECHNOLOGY THAT CAN HELP AN ORGANIZATION IMPROVE PRODUCTIVITY AND SAVE MONEY. WITH OUR PLATFORM, ORGANIZATIONS CAN SCHEDULE TRAINING AND MONITOR COMPLIANCE 24 HOURS A DAY, SEVEN DAYS A WEEK. OUR TRAINING HAS PROVEN TO REDUCE INJURIES AND CLAIMS, RESULTING IN AN EXCELLENT RETURN ON INVESTMENT."***

**THOM WOODWARD**
Executive VP, TargetSolutions


# Information Sources

**>> Christopher J. Naum:** Executive Producer, www.buildingsonfire.com, Interview, July 2012

**>> Dan Collins:** Training Captain, Cal Fire San Diego, Interview, April 2012

**>> Eddie Buchanan:** Past President, International Society of Fire Service Instructors, Interview, April 2010

**>> EMS Magazine:** "Why Distance Learning Makes Sense for EMS," Cygnus, May 2010

**>> FireRescue1:** www.firerescue1.com, NFPA Survey

**>> ICS Learning Group:** "Making the Jump into E-Learning"

**>> MillerPierce Marketing Firm:** Fire Service Survey, 2012

**>> National Association of EMS Educators:** Position Paper, 2003

**>> National Fire Protection Association:** 2011 Firefighter Statistics

**>> Report of the 2nd National Fire Service Research Agenda Symposium:** Report, 2011

**>> RFG Research:** "National Benefits of Online Learning in Fire & EMS Survey," 2011

**>> Richard Gasaway:** Situational Awareness Expert and Former Fire Chief, Interview, July 2012

**>> Santos Elizondo:** EMS Instructor, San Angelo Fire Department (Texas), Interview, May 2012

**>> Thomas Woodward:** Executive Vice President of Sales, TargetSolutions, Interview, October, 2011

**>> Wikipedia:** www.wikipedia.com, Online Training, E-Learning, SCORM