CITY OF PACIFIC GROVE

AGENDA REPORT

TO:	Honorable Mayor and Members of City Council
FROM:	Thomas Frutchey, City Manager
MEETING DATE:	January 6, 2016
SUBJECT:	The Future of Fire Protection in Pacific Grove
CEQA:	This action does not constitute a "Project" under the California Environmental Quality Act (CEQA) Section 15378

RECOMMENDATION
Direct the City Manager and Mayor to initiate discussions amongst the peninsula city managers and mayors on a comprehensive and collaborative approach to rethinking and upgrading fire protection programs on the peninsula.

DISCUSSION
There is increasing attention nationwide to the significant improvements needed and possible in urban fire protection programs (Attachment 1). For example, modern homes burn up to eight times faster than traditional structures (http://paidpost.nytimes.com/nest/in-a-flash.html?_r=0), due in large part to the many synthetics now in most homes. Water mist technology and aerosol canisters, both applied prior to entry into a burning structure, have been found to be significantly more cost-effective than traditional water application approaches, which usually require the firefighter to enter the burning structure. Significantly greater relative attention needs to be placed on prevention, not suppression. The cost of sprinkler retrofits continues to drop, as technology and practices improve.

There needs to be a serious rethinking of fire protection approaches on the Monterey Peninsula as well. Reasons for that rethinking are fully evident in Pacific Grove and include, among others:

- Total Fire protection costs are more than 20% of the City's general fund budget, and are increasing. Escalating CalPERS costs are unsustainable.
- Normally fewer than five occupancy fires occur in Pacific Grove each year. The vast majority of service calls by the 3-person fire engine stationed in Pacific Grove are for emergency medical service (EMS) calls. Equipment, training, and self-identification, however, are predominantly fire-related.
- Virtually no effort is being expended on reducing the risks of fire in residential structures. Because of their other responsibilities, the crews have little time available for fire prevention efforts.
- The engine company stationed in PG has very few nighttime calls.

Over the last ten years or so, the focus in Pacific Grove has tended to be on who is to provide fire protection services. (See, for example, the 2007 Citygate study and the 2013 Matrix study, both of which are available on the City's website.) Options addressed have included: continuing with Monterey; creating a joint powers authority; contracting with Cal Fire; contracting with a private provider (such as Rural Metro); or returning to an independent Pacific Grove department (either fully professional or mixed volunteer/professional). Each of these options has its perceived advantages and adherents.

The improvements in cost-effectiveness achievable by focusing on who provides the services, however, are relatively minor. Such efforts will just slow the increase in costs, and not have much impact on effectiveness.

The focus, instead, needs to be on what services are provided. (It is not worthwhile to address who should be providing a given service until we are confident we know what the full nature and scope of services to be provided. Without weakening response capabilities, relative emphasis needs to shift from fire suppression provided by resources at a fire station to fire prevention and on-site suppression. Possible options to be considered could include, but are not limited to, the following:

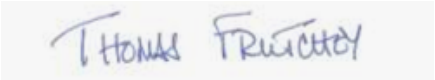
- Annual pre-fire visits could be conducted, to ensure all occupancies have working smoke detectors and observe fire-safe practices (such as not overloading extension cords), etc.
- At a community-wide investment of $500,000 per year (which is less than one-sixth of the current fire budget, and less than Pacific Grove currently pays each year to address our pension liabilities for fire personnel past and present), every occupancy in PG could be retrofitted with sprinklers in under 25 years.
- Using the integrated risk management planning approach employed by the Merseyside Fire District (profiled in Attachment 1) and others, peninsula communities could jointly focus on how to minimize or eliminate risks and hazards, before deciding on resource deployment. This might lead to a reduction in required staffing, thereby freeing up resources for sprinkler retrofits and other prevention measures.
- The primary measure of effectiveness could shift from an activity measure (average response time) to an outcome measure (how many days since the last fire).
- Response policies for EMS calls could be re-examined. Typically, Police, American Medical Response (AMR), and Fire personnel are all dispatched to EMS calls by the County's 9-1-1 dispatchers. Those policies are determined by the peninsula communities, and are subject to rethinking. By freeing up some of these resources, other beneficial activities could be undertaken.
- The PG station could have differential staffing, based on demand. The number of calls in the off-peak hours is quite low, and could be handled—with some increase in response time--the Hawthorne Avenue and Pebble Beach stations.

This is just a brief introduction to a topic that is receiving significant attention across the country. Copies of studies and other documents are available on the City's website (http://www.cityofpacificgrove.org/public-safety/fire-emergency-services). Meaningful progress is not going to be achieved by PG acting alone. The peninsula cities, however, working together, could achieve meaningful improvements.

FISCAL IMPACT
None.

ATTACHMENTS
1. No Cause for Alarm, article in ICMA's Public Management Magazine, July 2014

RESPECTFULLY SUBMITTED:



Thomas Frutchey
CITY MANAGER

No Cause for Alarm

Sustainability in fire service depends on change

by Tom Wieczorek

Two articles that relate to this article and fire safety management are live on *PM*'s website in the PM+ section: "Fires Don't Have Labels," written by Tony McGuirk, fire district chief, Merseyside Fire District, England, and "Fire Service at a Crossroads" written by Randy Bruegman, fire chief, Anaheim, California.

One only has to visit the not-too-distant past to learn how change has always gone hand-in-hand with fire services. In the United Kingdom, in the lead-up to World War II, the question being asked was how to deploy emergency resources so they would sustain an anticipated attack by Germany. Was fire service deployment sustainable? That same question remains in play today.

Back then, in the United Kingdom, the question of how to deploy emergency resources would lead to the creation of a concept known as standards of response coverage (SOC). Using a series of inputs, SOC was designed to guide emergency response: How long it would take to process and respond to a call, how long it would take to arrive on the scene, and how many responders would be dispatched and from what stations located in which areas.

Across the Sea

At the same time, in the United States during the 1930s, paid fire departments were becoming more commonplace, driven by insurance companies that would not insure losses in areas they determined had insufficient professional firefighters. Stations were often located not by risk or hazard but by how far a horse could run at full gallop while pulling the steamer pumps. Amazingly, how far a horse could run and where stations were located happened to mesh with a variety of times still found in many standards.

Work on standards of response coverage continued in the United Kingdom with subsequent research published in the 1950s and for the final time in 1985. It was about the same time, in 1985, that a group of local government managers from ICMA and progressive fire chiefs from the International Association of Fire Chiefs (IAFC) started meeting to develop performance management metrics in the fire service, which ultimately led to the creation of the Commission on Fire Accreditation International, Inc.

Today, that organization falls under the umbrella of the Center for Public Safety Excellence, Inc., a nonprofit organization located in Chantilly, Virginia, that also credentials a variety of fire professionals. While the SOC process has begun to be more common in the United States, the United Kingdom continued research that led to a white paper (http://www.fitting-in.com/reports/whitepaperandact/whitepaper.pdf) and abandonment of the process just after the new millennium.

The United Kingdom found that the traditional SOC process focused on inputs (time, equipment, staff) rather than outcomes, which was a major change when deploying resources. In the SOC model, a community conducts a risk-hazard assessment upon which it determines what resources would be needed should a fire occur in a location.

Using the integrated risk management planning (IRMP) approach, the community focuses on how to minimize or eliminate risks and hazards before deciding on resource deployment. It marked a change from reacting to an alarm to preventing the alarm in the first place. Tradition, however, has guided the fire service for centuries, and change does not come easy and is often challenged.

Innovation in Resource Deployment

The United Kingdom made a profound change and moved towards IRMP to deploy resources. Perhaps the greatest change was focusing significant resources not only on the response but in the area of fire prevention. Consider how Merseyside Fire District Chief Tony McGuirk employed a number of techniques to change the way fire services were delivered.

One of the first strategies was to look at the nature of fires being handled by the fire district. IRMPs rely on a comprehensive analysis of the nature of fire within the area served by the department: what types of fires, when do fires occur, what caused the fires, and with what frequency did events occur. If you talk with fire chiefs in the United States, you'll usually find that most fire departments regularly inspect commercial and industrial occupancies or know that they should.

But according to the National Fire Protection Association (NFPA), most fire injuries and deaths occur in single-family residential buildings. Do communities inspect or offer to inspect those structures today, with a goal of eliminating fire?

The answer is usually going to be "no." In Merseyside, however, the fire district headed out with a task of inspecting 500,000 structures, which was thought to be impossible. The

impossible, however, was soon found to be possible, and the result was a drastic decrease in both the number of fires as well as the numbers of injuries and deaths attributable to fire.

Turning to Prevention

Instead of looking at the job being one to "fight fire," it became one to prevent fire, according to Chief McGuirk, and a fire was looked upon as a failure in prevention. Detailed metrics were created to determine the effectiveness of firefighting, and these are regularly published by the fire brigades throughout the United Kingdom. You can find Merseyside's reports at http://www.merseyfire.gov.uk/aspx/pages/Default2.aspx.

Other IRMP changes in the United Kingdom involved co-locating community centers with fire stations, a strategy that has substantially reduced delinquency problems with youth by enlisting the outstanding characteristics of firefighters to motivate youth. The fire station includes a gymnasium, sports fields, weight equipment, and a variety of other attributes that can be used for a fee or annual token membership by youth in the district.

The results of the work in the United Kingdom are beginning to make their way into other parts of the world. Chief McGuirk presented his district's results to fire officials in Nanaimo, British Columbia, Canada, in 2013, which has embraced the IRMP process (http://doverca.com/2013-04-08%20Final%20Attachment-Synopsis%20%20Integrated%20Risk%20Management%20Model.pdf).

It is a paradigm shift," said Chief R. Craig Richardson, MA. "Communities looking at IRMP need to take into consideration that the traditional model of response will be replaced with one that requires a new way of thinking. It requires educating people on what the goals are and how to achieve them."

In the United States, with the help of a 2007Assistance to Firefighters Act grant, the U.S. Branch of the Institution of Fire Engineers created Vision 20/20 (http://strategicfire.org/08report.pdf). The United Kingdom experiences were used as the basis for creating a community risk assessment process that would look at hazards and risks leading to the implementation of community risk reduction programs.

From the initial meeting, a report was created titled National Strategies for Fire Loss, which began with a sobering fact: "Despite significant progress in the last 30 years, the United States still has one of the worst fire loss records of the industrialized world. Fire loss includes the social, environmental and economic impacts, not just fire deaths and injuries.

"For example, in 2006 the U.S. had 1.6 million fires attended by fire departments, and no one disputes the actual number is higher due to unreported fires. The number of deaths is in the thousands, the number of injuries in the tens of thousands, and the economic losses in the billions."

I had the opportunity to visit Merseyside in Liverpool, England, at the beginning of its conversion process in 2006 and once again in December 2013. While the results of changing deployment and process can be established in the performance management metrics, it has

not come without some concern by labor, which has seen its member numbers reduced as calls for service continue to decrease.

When I arrived in 2013, firefighters throughout the United Kingdom were on strike. Prior to his retirement, Chief McGuirk faced numerous "no confidence" votes by his union.

EMS Incorporation

One of the changes that has occurred in the United States has been the incorporation of emergency medical services (EMS) into the fire service. EMS had traditionally been provided to communities by funeral homes or through police agencies using one-person paramedic response vehicles.

The concept of fire-based, station-deployed response was adopted by the U.S. fire service, and today, many fire departments find they respond to far more EMS calls for service than fire—usually in the range of 80/20, with fire continuing to decrease. Yet the focus of equipment, training, and staffing is on fire response.

A trend that is not confined to the U.S. but has also become a concern in the United Kingdom is the struggle to find and, more importantly, maintain paramedic personnel. Many departments now require all personnel to be paramedics even though a majority of calls may be handled by basic life support (BLS) personnel. The result is an expensive service and diluted opportunity for paramedics to gain and maintain competency.

Matching Need with Response

A September 2010 study by the National Institute of Science and Technology (NIST) found that one paramedic and one emergency medical technician (EMT) with additional advance life support (ALS) on an engine resulted in a better performance than two paramedics (see https://www.iaff.org/tech/PDF/EMS%20Nist%20Report_LORES.pdf).
This finding was supported in a report for the Emergency Medical Services Authority serving Oklahoma City and Tulsa, Oklahoma, and titled *Emergency Medical Services Evidence Based System Design White Paper for EMSA* issued in July 2011
(see http://www.naemsp.org/MDC%20References%20for%20Website/OUDEM%20EMS%20System%20Design20White%20Paper%20FINAL%20for%20July%202011%20Release.pdf).

In the EMSA paper, Marc Eckstein, M.D., asked, "So what is the ideal system?" The answer: It is likely a mix of advanced life support and basic life support providers, using a tiered dispatch system.

The report continues: "There needs to be an ample number of BLS ambulances so that when paramedics are on scene with a BLS patient, there is a BLS ambulance available to be dispatched within a reasonable time frame to respond and provide transport. Fire companies, which are typically positioned strategically throughout communities, serve as ideal first responders.

"Staffing every ambulance with paramedics in an EMS system where it is known that the majority of patients only require BLS transport is about as efficient as staffing an urgent care center with cardiothoracic surgeons. We must match the need with the response. While there can never be a universally perfect model, an honest appraisal of one's current EMS system, and a willingness to change, is the first step.

"Simply measuring the success of an EMS system by measuring response times will only serve to create an expensive, inefficient system that is not focused on the patients who entrust it to their service."

Charting a Path for Improvement

On October 3, 2013, the NHTSA issued a new report, *Strategy for a National EMS Culture of Safety*, which pointed out two areas for EMS improvement:

Lack of a systems approach. EMS organizations typically follow an event-based approach to safety concerns—yet it is a systems-oriented approach that has made an impact on safety in other fields. This concern encompasses both general lack of uniform EMS systems, even at the state level, and a lack of consistency in the concept of safety itself.

Focus on response times. One of the few metrics that is routinely measured in EMS organizations is response times, despite scant evidence that response time makes a clinical difference. EMS provider organizations are often contractually held to a specific response-time performance standard, sometimes with fines levied for noncompliance.

This both reinforces the perceived need to rush and creates organizational incentives to do so. The resulting sense of pervasive urgency, in turn, feeds the belief in the EMS culture that taking chances is part of "trying our hardest."[1]

Questions to discuss locally: Have you discussed how EMS service is provided with the fire chief of your community? With first responders? Do the fire departments respond the same way to basic life-support calls as advanced life support? Do they have trained dispatch and protocols in place in dispatch that guide the notification of responders?

Tradition and Equipment

The fire service often states that it is "100 years of service (or tradition) unhampered by progress." A great deal of research has or is taking place indicating that the fire service needs to change—in everything, including from how it initially attacks fires and conducts search and rescue to how it can fight fire.

Testing laboratories have looked into how fires are burning in modern houses, which are often much more airtight than older structures. From the research, Underwriters Laboratories (UL) (http://www.firefighternation.com/article/strategy-and-tactics/closer-look-ul-ventilation-study) produced a series of training videos on how fire departments should change their policies, procedures, and training to recognize that the sudden introduction of air may endanger both responders and occupants.

Questions to discuss locally: Have you met with your chief and adopted the findings of the UL studies as well as trained responders in your department? Is the change enforced?

New Approaches

Other work from the United Kingdom has found that the use of "water mist technology" can result in a different way to fight car and small-structure fires. Water mist technology uses micron-sized droplets delivered from special nozzles to effectively suppress fire.

While in Liverpool, I was shown how the low-pressure models were being deployed with two firefighters assigned using backpacks to extinguish car fires. In Manchester, firefighters were experimenting with high-pressure water mist technology to introduce water into burning structures without opening doors or windows and thereby extinguishing the fire prior to entry.

One of the features of the water mist technology is that it eliminates the need for multiple fire extinguishers and allows businesses—particularly those with hood systems normally found over grills and open flame cooking areas of restaurants that, when activated, deliver a smothering agent—to reopen faster and with less damage.

Other changes in the United Kingdom and France involve use of motorbikes equipped with pressurized tanks to quickly deploy and evaluate alarms as well as to fight motorcar fires. Because of narrow streets and congestion, large engines may not be able to reach the scene in a timely manner or at all, while the motorbikes allow responders to maneuver around obstructions. Using integrated risk management planning and data that is regularly reported, equipment, staffing, and tools are designed or deployed to meet the likely demands of the district; one size was not found to fit all.

The price of home sprinkler retrofit and initial installation continues to decrease in cost. Now it is less than $1.35 per square foot (from $1.61 in 2008). Communities must work to educate residents and businesses about the importance of sprinklers.

A manager should consider discussing partnership opportunities with the fire chief in order to not only install smoke detectors in every home but also, ultimately, sprinklers. No responder has ever died when responding to a sprinkler- protected building, with the exception of 9/11 that involved terrorism.

Homeland Security

As I wrote this article and talked with chiefs from throughout the world, I found that one thing distinguishing the U.S. fire service from many others was the incorporation of fire departments as part of the homeland security responder system. Other countries do so, but to a lesser extent. In FEMA's mission documents, responders from communities are anticipated.

This challenge, financed by local governments, should be discussed with federal and state elected officials. For comparative purposes, the National Guard, which might have a similar mission, is budgeted at $16 billion.

The funding for police services largely comes from the U.S. Department of Justice's Community-Oriented Policing Services (COPS) office. It has almost $2 billion to spend for policing initiatives, which does not include additional dollars through the U.S. Department of Justice and other cabinet agencies.

The delivery of EMS is largely guided through the National Highway Traffic Safety Administration or U.S. Department of Transportation. And yet, during 2013, the fire service is budgeted to get slightly more than $600 million for research and assistance to firefighters act grants. If the fire service is going to be the responder for homeland security and emergency response at a national level and be sustainable, shouldn't the associated expenses be reflected in the appropriations?

Which brings us back to the pivotal question: Is the existing deployment of fire service sustainable? And can you answer the question: "How effective is your deployment system?" Today's department must deploy dynamically based upon metrics, data, and research, instead of simply tradition.

In light of state aid cutbacks as well as tax limitation laws and diminished tax collections, we are unlikely to see a return to community budgets like those in the 1980s and 90s for some time—if ever. In order to be efficient, effective, and safe for both responders and local governments, then managers, fire chiefs, and first responders must evaluate how to provide fire service and be willing to embrace necessary changes in deployment of services.

Footnote:

[1] "Strategy for A National EMS Culture of Safety", page 27, 10–03–2013, http://www.emscultureofsafety.org/wp-content/uploads/2013/10/Strategy-for-a-National-EMS-Culture-of-Safety-10-03-13.pdf.

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http://icma.org/en/press/pm_magazine/article/104606