



PORTLAND FIRE & RESCUE:
Emergency response time goal not met,
though PF&R strives for excellence

July 2010

LaVonne Griffin-Valade
City Auditor

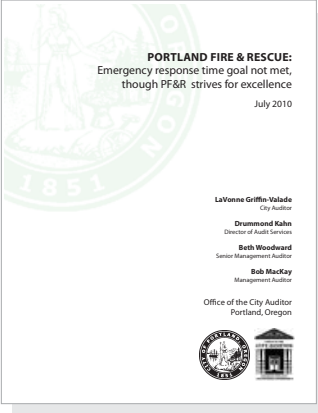
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July 7, 2010

TO: Mayor Sam Adams
Commissioner Nick Fish
Commissioner Amanda Fritz
Commissioner Randy Leonard
Commissioner Dan Saltzman

SUBJECT: Portland Fire & Rescue: Emergency response time goal not met, though PF&R strives for excellence

The attached report contains the results of our audit of Portland Fire & Rescue in reaching the scene of emergencies within its established goal. Portland residents place great value in fast response to emergencies, and PF&R aims to meet high standards for performance in this area. We found that PF&R has not attained its citywide goal, and we analyzed reasons why not. We also reviewed the basis for the current goal and considered how response time performance might be improved.

Commissioner Randy Leonard and Fire Chief John Klum submitted a written response to this audit. Their response is included at the back of this report, along with responses from Commissioner Amanda Fritz and the Bureau of Emergency Communications.

We ask Portland Fire & Rescue to provide us with a status report in one year, through the office of its Commissioner, detailing steps taken to address our recommendations in this report.

We very much appreciate the cooperation and assistance we received from personnel in Portland Fire & Rescue, and the Bureaus of Emergency Communications, Transportation, and Technology Services as we conducted this audit.

LaVonne Griffin-Valade
City Auditor

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Attachment

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Summary

In Portland Fire & Rescue's arrival time at the scene of a fire or medical emergency, one minute may make a big difference in people's lives. About twelve years ago, and before national standards existed, Portland Fire & Rescue (PF&R) adopted its current goal for the time it should take to reach the scene of an emergency. PF&R's goal is to arrive at 90 percent of emergencies within 5 minutes and 20 seconds (5:20) from the time of first dispatch to the scene.

Currently, PF&R does not meet this citywide goal. We found that it arrived at only 75 percent of emergencies within 5:20. However, PF&R arrived at 90 percent of the small portion of those emergencies that were fires in residences and commercial buildings within 5:20. Multiple units are dispatched at once to those events. Fire's inability to meet its citywide goal is due to many factors. Its goal is aggressive and applies to all areas of the city, although geography and other factors can slow response times in some areas more than in others. The high value that PF&R places on safety is integral to its response decisions.

The negative effect of responding to only 75 percent of incidents within 5:20 instead of meeting the 90 percent goal is most likely greatest in medical emergencies such as cardiac arrests, in which every minute makes a difference. Response to a single incident can be delayed by more than one cause.

Factors that slow PF&R's response in some geographic areas more than in others include distance, topography (like hills), congestion, and traffic calming structures such as speed bumps. First, the greater the distance from the nearest station, the longer the travel time is

likely to be. Second, steep hills in some neighborhoods slow the heavy engines and trucks going uphill, and other barriers like free-ways also prevent street grids that would allow for quick access. We found that response is generally slowest in hilly areas and in areas farthest from stations, and is fastest in downtown and in areas of Northeast and Southeast Portland that are more easily accessed from different directions. Third, speed bumps and other structures built into streets contribute to delay. Congestion and traffic lights may also slow responders.

Any response may be delayed by another incident response or activity already underway in the same area, if no other nearby firefighters are available to respond. Under a City agreement with Multnomah County, PF&R is the first responder to medical incidents. Leaving a non-priority incident or a fire inspection that is already underway to respond to an emergency may add minutes to the emergency response. Firefighters value public service foremost, and they strive under many constraints to safely reach every resident in need of aid.

Another factor that affects some responses is firefighters' judgment about risk-taking during response with respect to the degree of emergency. Most emergency dispatches are to a variety of medical problems, and firefighters are not usually as certain of each incident's urgency as they are when dispatched to a residential fire. Multnomah County's definition of medical emergency includes cases where no life is at stake, and it is 9-1-1 call takers at the Bureau of Emergency Communications (BOEC) who determine the emergency status of each incident.

When dispatched to a known structural fire, firefighters take all allowable risks to arrive as quickly as possible. However, in the interest of safety, firefighters may not take all allowable risks as they travel to less urgent incidents with lights and siren, one of the most dangerous parts of their job. For example, when dispatched to a case such as sickness not classified as life threatening, the company officer may be more cautious during travel in order to reduce risk of an accident on the way to the emergency, knowing that one minute more travel time will most likely not make a difference in outcome as it would at a fire or cardiac arrest.

We found that in addition to giving high priority to safety practices, PF&R follows nearly every other industry best practice and has been an innovator and leader in some practices.

Portland residents value PF&R's fast response to emergencies, and our audit found that overall performance can be improved. To address causes we identified for response time not meeting the goal, we recommend that the Commissioner in Charge and City Council take actions to ensure the Fire Marshal's involvement in decisions that affect response, including traffic calming and development affecting street width. We further recommend that the City's agreement with Multnomah County for first responder services be improved. Finally, we recommend that PF&R make some improvements in the way it documents response time performance to make the measurement more useful to the public and to firefighters.

Chapter 1 Introduction

Response time matters

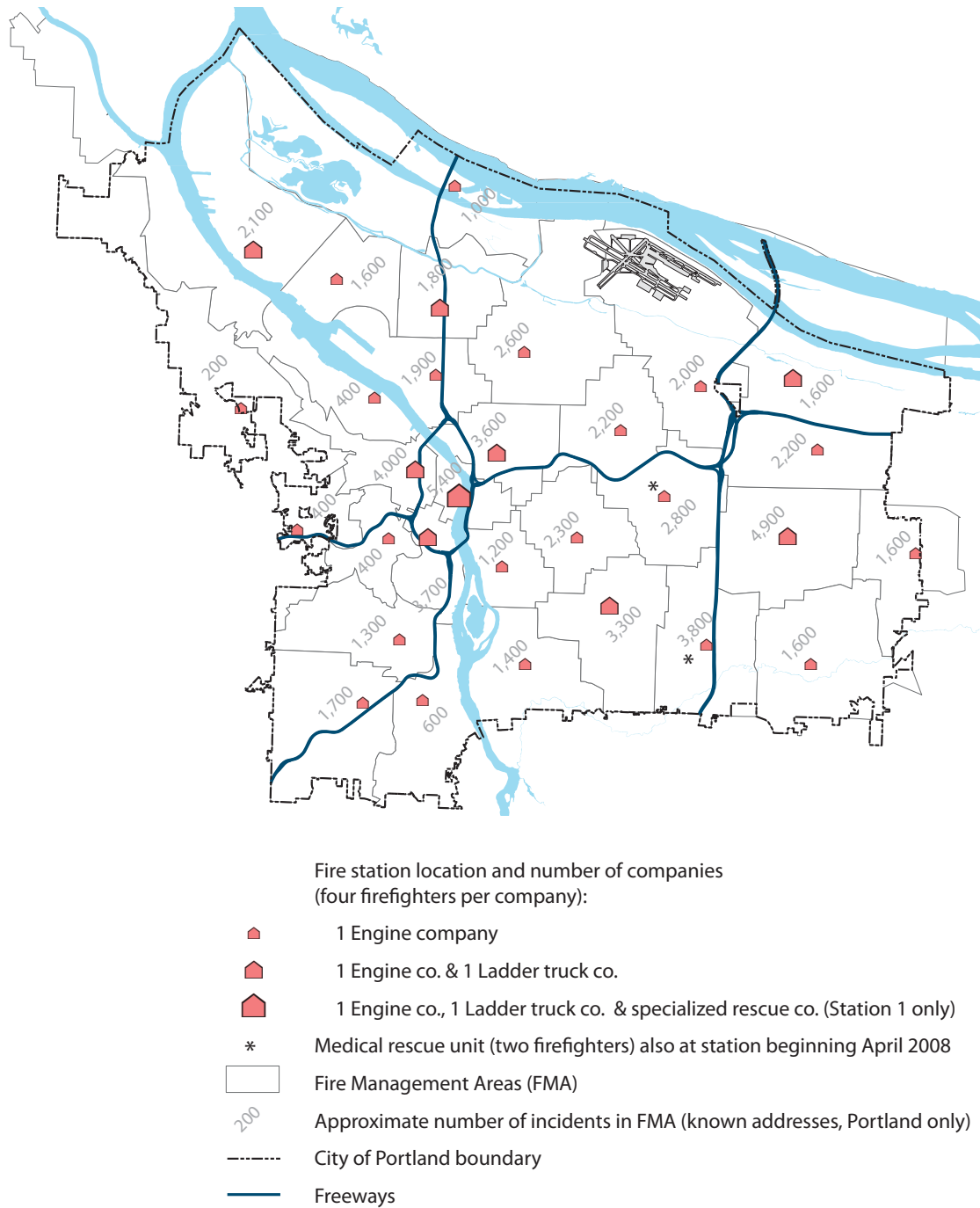
Only five to 10 minutes after a fire starts in a home, the room where it started could be so hot that everything not already burning ignites at once, and the fire bursts out to the rest of the structure. At this “flashover” point, temperatures are so high that the heat can kill by itself. This is why it is so critical for Portland Fire and Rescue (PF&R) to respond quickly when dispatched to a fire. A fire may have already been burning for minutes by the time someone reports it to 9-1-1.

Since the 1800s, PF&R has been responding to medical emergencies as well as to fires, because it was and still is the fastest emergency response service available. Survival of some patients may depend on PF&R’s response time. For example, when someone has stopped breathing due to a heart attack or other cause, their heart and brain begin deteriorating without oxygen. According to the American Heart Association, brain death starts in four to six minutes after cardiac arrest. Every minute that passes without cardiopulmonary resuscitation (CPR) and defibrillation reduces the victim’s chance of survival by 7 to 10 percent.

Fire’s response resources

PF&R’s major resources (shown in Figure 1) include 30 stations and 40 companies of firefighters. The stations are distributed across the city so that firefighters can respond to incidents quickly as they occur, theoretically within four minutes of driving time. As part of general obligation (GO) bond capital improvements that focused on seismic upgrades, several of the stations were constructed in the last 10 years to improve response time.

Figure 1 Fire stations and fire company distribution
FY 2007-08



Source: City of Portland Geographic Information System and Portland Fire & Rescue (PF&R) data

Each company is composed of a four-person crew led by an officer, and their vehicle. Medical rescue units have two crew members each. The companies of firefighters include 30 engine companies, 9 ladder truck companies and various specialized rescue companies, depending on what is needed at incidents. The station “fire management area” (FMA), shown around each station in Figure 1, represents the area to which companies assigned to that station are dispatched when available.

While PF&R must be prepared to reach an emergency anywhere in the city, the number of incidents varies a great deal in different areas. It ranged from only about 200 incidents in the Forest Park area up to nearly 5,400 in downtown Portland in Fiscal Year (FY) 2007-08, also shown in Figure 1. Only five FMAs had fewer than 1,000 incidents that year, while seven had over 3,000. At least one engine company is based at each of the 30 fire stations. Truck companies are distributed geographically, to provide search and rescue, ventilation, and extrication. PF&R has three engine companies for every truck company. PF&R tracks availability of the nearest station company, which ranged from 87 to 97 percent among all FMAs in FY 2007-08.

PF&R’s resources are managed as a flexible network that serves the whole city. When the nearest company of firefighters is not available for dispatch to an emergency incident, an available company from another FMA must be sent. This is the reason that stations are not spaced evenly over the city, and is a reason why more than one company is based at stations in areas with high numbers of incidents.

PF&R’s response time goal

Although PF&R cannot arrive at every fire within five minutes of fire ignition or save every heart attack victim, it does have an aggressive goal, set about 12 years ago, for the time it should take to reach the scene of a fire or medical emergency. PF&R’s goal is to arrive at 90 percent of emergencies within 5 min 20 sec (5:20) from the time firefighters are dispatched, including the time it takes to get to the engine or truck and get safety belts buckled.

PF&R’s Goal for Response

Time: In at least 90 percent of emergency incidents (lights and siren), arrive in 5 minutes and 20 seconds or less.

PF&R's time objective of 5:20 is tied to the need to arrive at a fire before flashover occurs, and to provide emergency medical service as quickly as possible. Its goal for performance – arriving at 90 percent of incidents within the time objective – is common practice in the field, although time objectives may vary. The average of all incidents would not be as useful because it gives no information about most responses, and could be skewed by a few very long response times. Some causes for delay may have nothing to do with PF&R service. As examples, a heavy snowstorm could delay response, or callers may not give correct addresses. Using 90 percent also allows for the difficulty any fire department has reaching more isolated residences relative to those in high-demand areas.

The National Fire Protection Association (NFPA) adopted the first national standard for emergency response by professional fire departments only 9 years ago (NFPA Standard No. 1710), which is voluntary. Although the first edition of NFPA 1710 had a response time goal that was 20 seconds shorter than Portland's, the NFPA said last year that its initial standard of 90 percent in 5 minutes for fire response was "unachievable" because firefighters have to put on protective clothing prior to boarding their vehicle to travel to a fire. Therefore, NFPA's recommended fire response time objective now matches Portland's, and its recommended response time objective for medical emergencies – 5 minutes – remains at 20 seconds shorter than Portland's.

Having a goal allows PF&R and others to evaluate its efforts, but the response time of PF&R's first-arriving firefighter company is only one aspect of its performance. PF&R has longer time goals for the arrival of all companies needed at structural fire incidents, and it has goals for building inspections designed to prevent fires. In this report, we focus on the response time of first arrival at incidents because it is an important indicator of overall performance.

Response time and process

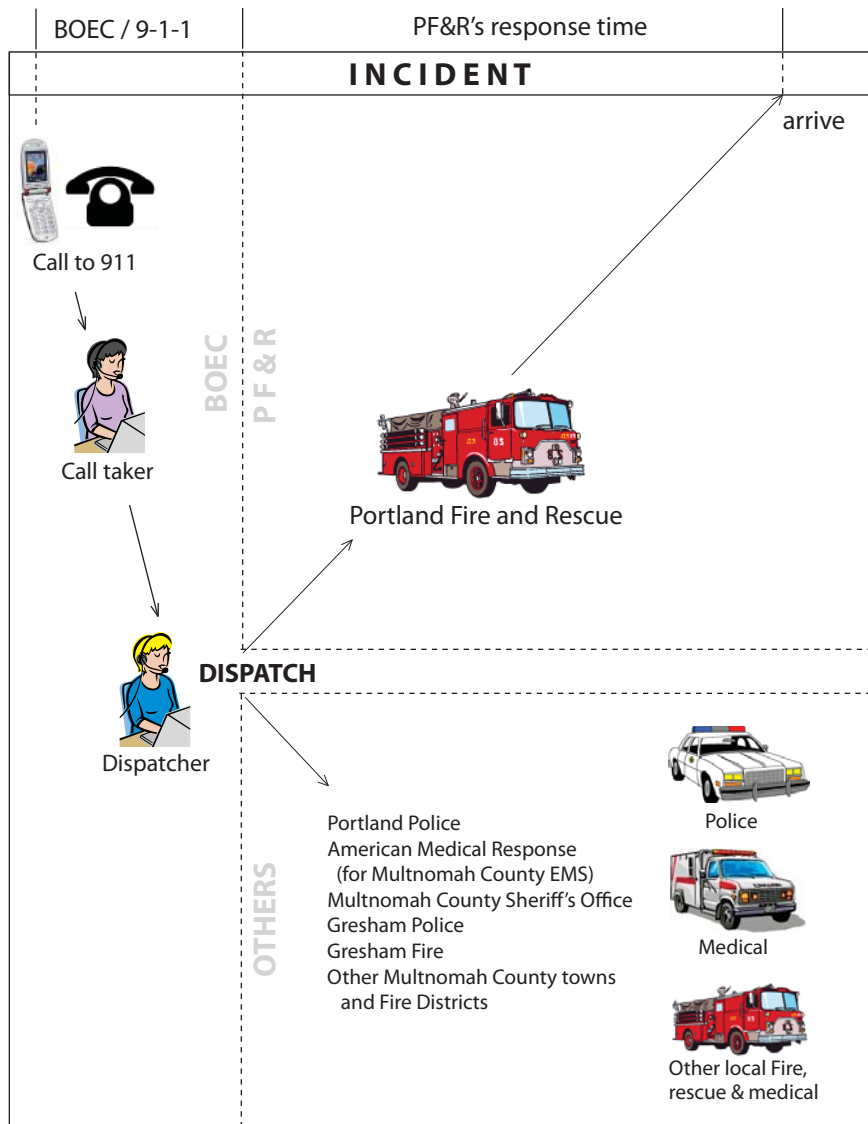
From the perspective of a person calling 9-1-1 for help in a fire-related or medical emergency, response time starts when a 9-1-1 call taker answers the call, usually within a few seconds, and ends when firefighters or an ambulance arrive at the scene to help. PF&R's response time is the major portion but not all of the time a caller would experience as response time. PF&R and other city, county, and private organizations work together to respond.

PF&R's response time

PF&R's response time for a single incident begins at the moment the Bureau of Emergency Communications (BOEC) dispatches any unit of firefighters to the scene of the incident, by voice announcement of the incident type and ends when the first PF&R unit arrives at the scene and stops. When the incident is a structural fire, a minimum of five PF&R companies are dispatched simultaneously, so the first-arrival response time ends when the first of those companies arrives. When the incident is a medical emergency, BOEC dispatches both a PF&R unit and an ambulance at the same time. Figure 2 illustrates PF&R's response time relative to the total response time from when a 9-1-1 call is made.

The two segments of PF&R's response time are preparing to depart – referred to as turnout – and traveling to the scene. Its time objective of 5:20 applies to a combination of both. Before leaving the station or other starting location, firefighters must know the quickest route to the incident location, possibly gather hazard information, and don equipment needed. Therefore, turnout time may depend on driver experience and on what is known or unknown about the incident. The Computer Aided Dispatch (CAD) system that BOEC uses captures and saves the times of dispatch, enroute (the time the PF&R vehicle leaves), and arrival. PF&R uses mobile data computers to input enroute and arrival times to CAD.

Figure 2 Response to fire and EMS 9-1-1 calls



Sources: BOEC, PF&R, and City agreement with other jurisdictions.

Role of BOEC and Multnomah County

BOEC answers 9-1-1 calls for Police help as well as those for help in fire and medical emergencies. The City has a formal agreement with Multnomah County and neighboring cities and fire districts to receive 9-1-1 calls made within the County and to dispatch services through

BOEC for each of them. PF&R is therefore only one of many responding services that BOEC dispatches. Under a separate agreement between the City and Multnomah County, Fire provides “emergency medical first response service” within the City’s service area. The current agreements have been in place since 1995.

Multnomah County is authorized by the State of Oregon to oversee emergency medical services (EMS). It ensures ambulance service by contracting with American Medical Response (AMR) to arrive at medical emergencies within eight minutes of dispatch by BOEC, provide care in medical emergencies, and transport patients to hospitals. The City of Portland has no formal agreement with AMR. A County physician supervises the medical practices of both PF&R and AMR. Their EMS capability and medical supplies are equivalent. The physician directs Multnomah County Public Health EMS, which is also responsible for the Triage Guide BOEC uses to determine the typecode of each medical call.

BOEC call taker role

The BOEC call taker answering a 9-1-1 call must decide what service the caller needs by listening to the caller and asking questions. As soon as the call taker is able to classify the type and priority of the incident, she or he sends the case information electronically to a BOEC dispatcher, staying on the line as needed to get more information and provide help. Call-takers are allowed 30 seconds longer to process medical emergencies than to process urgent fires. The incident typecode selected by the call taker, and checked by the dispatcher, determines whether the response is considered an emergency. If it is, the responders use lights and siren on the way to the scene.

Bureau of Technology Services role

The City’s Bureau of Technology Services (BTS) provides essential CAD technical support and maintenance to support BOEC’s CAD operation. Using CAD data fed to its own information system, PF&R calculates and reports its citywide response time.

Chapter 2 **Audit Results**

Portland Fire & Rescue is not meeting its response time goal

We found that PF&R's response time to the highest priority emergency incidents did not reach its goal in the three prior fiscal years, FY 2006-07 through 2008-09. PF&R arrived at close to 75 percent, rather than its goal of 90 percent, in 5:20 or less, of combined fire and medical emergency incidents. In FY 2007-08, the year for which we performed the most analysis, PF&R arrived at 77 percent of the highest priority emergencies, and 75 percent of all emergencies, in 5:20.

Most responses were faster than 5:20 in FY 2007-08 (the average PF&R response time to emergencies that year was only 4:30).

Response time performance, citywide:

In 75 percent of emergency incidents arrived in 5 minutes and 20 seconds or less.

Only emergency responses, defined as those with dispatch typecodes signifying that lights and siren are needed, are included in the calculation of citywide response time. BOEC and PF&R refer to these as Code 3 responses. According to PF&R, the vast majority of incidents are dispatched as Code 3. The number of emergency medical incidents relative to emergency fire incidents was about 23 medical to one fire in FYs 2007-08 and 2008-09. Therefore, citywide response time mathematically depends more on the far greater number of responses to medical emergencies than it does on response to fire incidents.

PF&R's goal to arrive at 90 percent of emergencies within 5:20 is reasonable, because it is consistent with the NFPA recommended goal for fire incidents and just 20 seconds longer than NFPA's recommended goal for medical first response. Fast arrival can save lives and property.

Many of the factors that affect response time are interrelated, and several may affect a single incident. Geographic features and barriers such as freeways, distance from stations, speed bumps, and the number and type of incidents are some key factors. Non-physical factors also affect response times, including PF&R's safety protocol that requires firefighters to don their protective gear and fasten seat belts before leaving the station, stop at red lights and stop signs, and slow for green lights until sure of safety. PF&R's consideration of public and firefighter safety is inseparable from most other facets of response.

This report discusses the effects of not meeting the response time goal, some major causes that are specific to Portland, and the best practices we found related to response time. Causes include resource distribution and geographic features; congestion; structures such as speed bumps; and the number and types of incidents that PF&R is dispatched to.

Effects of not meeting the emergency response time goal

According to industry experts, first responders have the greatest impact in stopping bleeding, opening blocked airways, restarting a stopped heart with an automated defibrillator, and giving an injection of epinephrine to a patient with an allergic reaction. These would be the types of cases in which delay has the greatest effect. Delays by one or more factors such as longer distance, congestion, or multiple speed bumps result in greater damage in some cases, and when they occur during the same response. Even if PF&R could meet its response time goal, it would not be able to reach every person with a cardiac arrest in time to prevent damage or reach every fire before its flashover point.

The effect in some cases may have been only a few minutes longer discomfort for patients, but in others such as cardiac arrest patients, additional time could have cost a life or negatively impacted the chance of full recovery. Property loss could also have been higher.

**Resource distribution
and geographic
features**

Response time is tied to travel distance during response, which results from resource distribution. It is also affected by variation in slopes, access, congestion, traffic signals, and other factors.

Travel distance

The number and location of fire stations operating in any city is a primary factor enabling quick response time. At the same time, a city's response time goal is used to determine the number of stations needed to meet that goal

based on road distance between stations and estimated travel speed. Portland's 30 station locations (Figure 1) were chosen to allow responders to reach almost any incident in the urban area within the response goal. Although fire

stations were closed temporarily, a few at a time, for seismic upgrades during the last 10 years, companies of firefighters assigned to those stations continued serving their fire management areas (FMAs) from temporary locations until their stations were reopened.

According to PF&R's reports, within each of the 30 station areas, incidents farthest from stations take longer for emergency responders to reach, and conversely, response time generally is faster to homes and commercial buildings closer to a station. More stations may reduce response time by reducing distance.

Travel distance to an incident is increased whenever a company from the nearest station is not available to respond to an incident and another company must respond from a station or location farther away. Having multiple companies at a station can therefore also improve response time for that FMA.

Citywide response times to a small but significant group of incidents by itself did meet the goal in FYs 2006-07 through 2008-09 – those that were fires in residences or commercial buildings. Too few of these incidents occurred in five FMAs during FY 2007-08 to evaluate

"Response time depends on resources available."

Dr. Jon Jui, Emergency Medical Services Director, Multnomah County Public Health

performance by individual FMAs. Incident locations with response times longer than 5:20 in that category (urgent structural fires) were generally at the edges of FMAs, indicating that distance was a key constraint in this subset, even though at least five companies are dispatched at once to such fires.

Council's budget allocations to PF&R may indirectly impact response time by controlling the number of stations and companies available for emergency response. As Dr. Jon Jui, Multnomah County's Director of Emergency Medical Services, told us, "response time depends on resources available." Two 2-person medical rescue units have been funded for two years (through June 2010), but in past years PF&R was able to operate many more rescues. We determined that budget increases have not been proportional to workload and population increases. PF&R's expenditures (adjusted for inflation) increased 3 percent in FY 2005-06 through 2008-09, while incidents increased 13 percent and population increased 4.6 percent.

Steep slopes and other geographic features

Physical factors and barriers such as slopes, rivers, and freeways vary in different areas of the city, and affect street layout. They also impact emergency response time, particularly when responders are called on to travel from a neighboring station area because the local station firefighters were not available for dispatch. In some areas of the city, steep hills slow PF&R's heavy engines and trucks going uphill. The lack of a street grid that facilitates access from any direction is common in hilly areas and can slow incident response, as illustrated in Figure 3.

We found that emergency response times we calculated for FMAs, shown in Figure 4, reflect the effect of such features. Performance among the FMAs ranged from only 32% of incidents within 5:20, up to 89%, in FY 2007-08. Areas with the lowest response time performance are subject to several constraints. Response was generally slowest in hilly areas and those areas at the edge of the network. It was fastest in downtown and Northeast and Southeast Portland areas where slopes are not as steep and street grids allow access from several different directions.

Figure 3 Examples of response time constraints

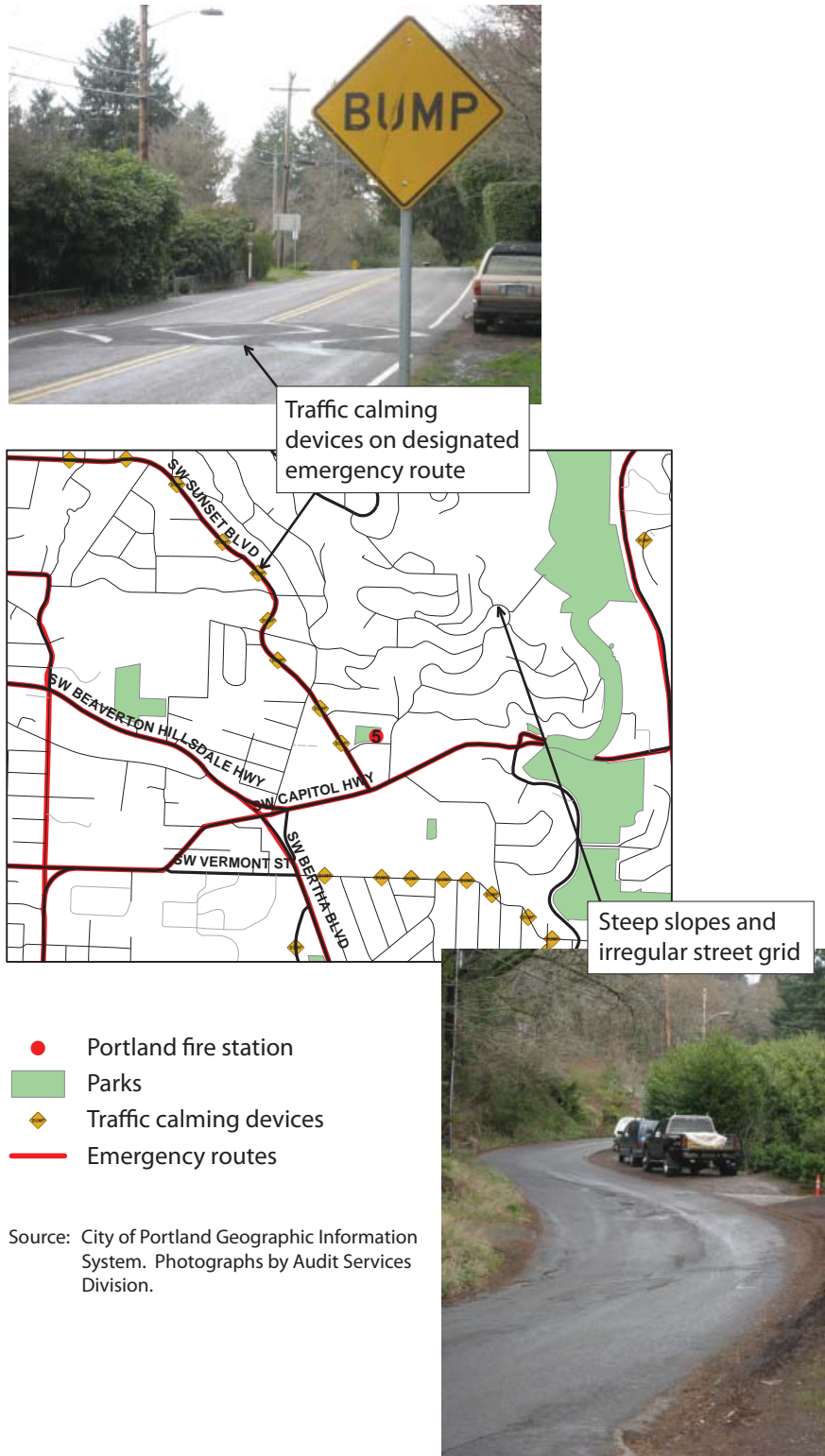
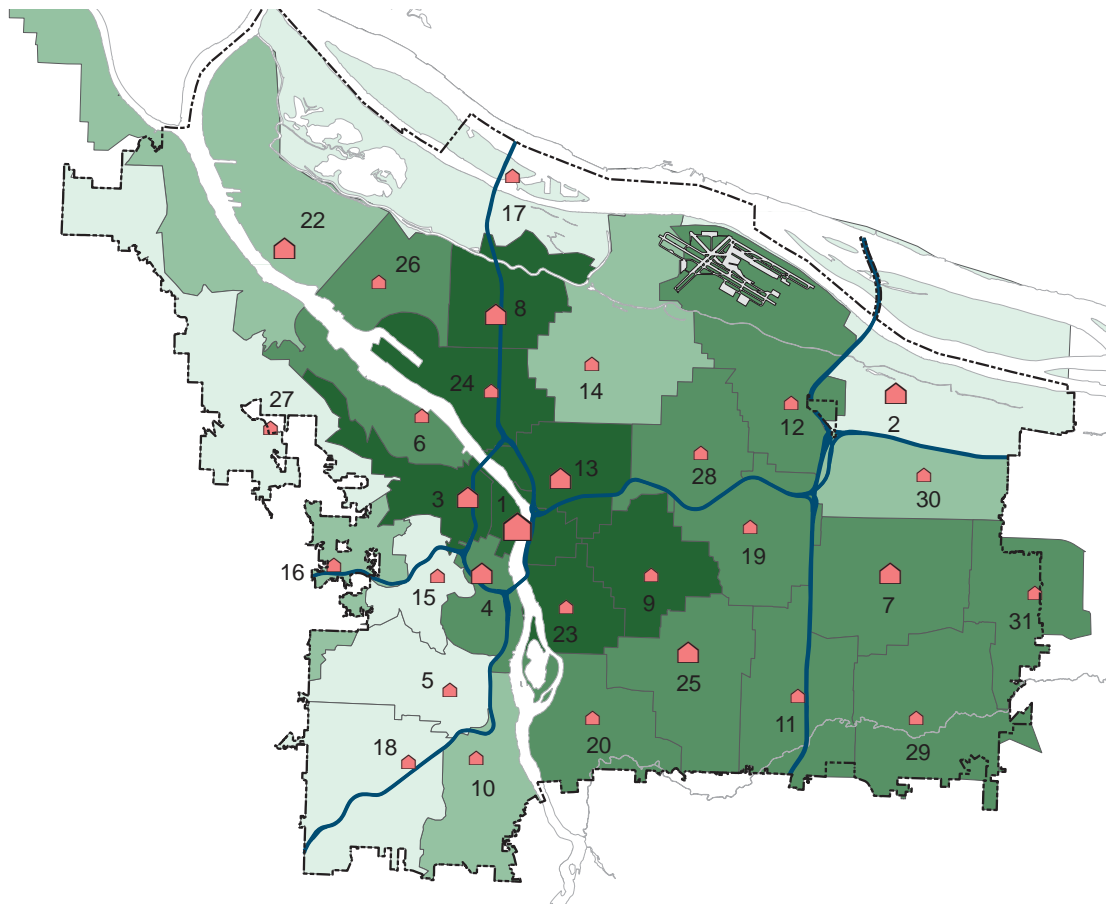


Figure 4 Response time performance by fire management area, FY 2007-08



Percent meeting time goal

- <60%
- 60-69%
- 70-79%
- 80-89%

- Freeways
- City of Portland boundary
- 1 Engine company
- 1 Engine co. & 1 Ladder truck co.
- 1 Engine co. & 1 Ladder truck co. & specialized rescue co. (Station 1 only)
- 17 Station number

Source: Bureau of Technology Services, Computer Aided Dispatch System and calculation by Audit Services.

Although fewer incidents occur in those hilly areas than in most others (Figure 1), the City built two stations in FMAs near the West edge of Portland (Stations 16 and 27) within the last eight years to improve emergency response times there, as part of station improvements that focused on seismic upgrades, using GO bonds. Prior to making those bond-funded improvements, PF&R reviewed all station locations from the perspective of improving response time, which also resulted in building a new station in Northeast Portland (Station 12). The funds did not extend to building an additional station planned for Southwest Portland, which will require cooperative funding from a neighboring jurisdiction.

Traffic congestion and signal control

Traffic congestion may impact response time in any area to varying degrees because it involves other events such as crashes, land use and population, as well as time of day. A recent study found that the Portland metropolitan area was number 22 on the list of the 100 most congested urban centers in the United States. Congestion in Portland includes not just automobile commuters. Some routes used frequently by firefighters are often congested by bicyclists, pedestrians, and transit vehicles, and a moving train may not be able to stop quickly to yield to an emergency vehicle. Although some City traffic engineers view congestion as positive because it slows traffic and prevents some crashes, it can slow emergency response efforts. Compounding the problem of congestion, other drivers do not always follow the law and yield when emergency vehicles approach with lights and siren.

Traffic signals alone can slow emergency response. To protect the safety of firefighters and others, responders stop at all red lights and stop signs. PF&R's emergency vehicles can override some traffic lights, turning red to green as they approach an intersection where override devices have been installed for public transit and response vehicles. These devices are installed at 45 percent of Portland's intersections with signals. Even with the ability to change a traffic light to green, however, emergency responders must navigate through blocked traffic and maintain caution because another emergency vehicle could be approaching from the cross-street.

**Speed bumps
and other street
development**

Portland Bureau of Transportation (PBOT) has constructed speed bumps and other traffic calming devices throughout the city which also slow emergency response vehicles. Bioswales constructed by the Bureau of Environmental Services as part of its Green Streets Program are a more recent addition to development in streets that can affect emergency response time. In some locations they make turning difficult and limit options for equipment setup. Islands and curb extensions for bicycle or pedestrian safety could also contribute to delay of emergency responders by changing optimal travel routes. As the number of these structures increases throughout the city, their combined effect on emergency response time may also increase.

PBOT and PF&R have measured the response delay caused by speed bumps. They found that depending on the type of response vehicle, its speed, and the type of speed bump installed, each speed bump can add up to nine seconds of delay. As shown in Figure 3, many may be placed along a single stretch of roadway. Firefighters say they sometimes choose a longer route without speed bumps to avoid a direct route with speed bumps on it. This means that the response time was longer in those cases than it would have been without the speed bumps.

After the City had constructed speed bumps and traffic circles on many streets in the early 1990s, PF&R raised concerns about their effect on response time. In 1996 Council directed PBOT and PF&R to resolve the conflicting public needs. Two years of effort working with citizen and technical advisory committees on the issue resulted in the policy to identify major emergency response routes and keep them free of “traffic slowing devices.” This policy was later incorporated into the Transportation Element of the City’s Comprehensive Plan.

As PBOT continues to design street features to improve livability, including speed bumps requested by residents, PBOT consults with PF&R on the locations or new types of structures that PBOT believes may affect emergency response. However, other than the policy not to construct traffic slowing devices on major emergency response routes, the City lacks any requirement that bureaus involve PF&R when planning structures in the City right-of-way that could impact emergency response. PF&R depends on other bureaus to request its input and provide it with timely information about proposed struc-

tures. For example PF&R was not consulted on impacts to emergency response time that may result from PBOT's Bicycle Plan for 2030. According to PBOT, PF&R has been responsive when consulted and understands traffic safety concepts.

PF&R indicated that it appreciates that these structures were added to serve other valid public purposes. These other purposes can be the indirect cause of delay, especially the purpose of slowing traffic to increase residents' safety. In these cases, decision makers must weigh the value of increasing the perception of safety by one group (residents requesting speed bumps) against the value of fast response to possible emergencies of unknown parties (who might include some of the same residents). According to our research and communication with PBOT and PF&R, decisions to add specific traffic calming devices in Portland have not always been founded on evidence of lack of safety or with full consideration of the various competing public values. Other cities have also had to weigh the demand for these devices against the possible need for more emergency response resources to compensate for slower travel time.

The Mayor's Office has recently requested that new speed bumps be considered on major emergency response routes, due to recent requests from residents. New types of traffic-slowing speed bumps purported not to slow emergency response vehicles may be under consideration, and PF&R has agreed to participate in a demonstration project.

**Incident number
and type**

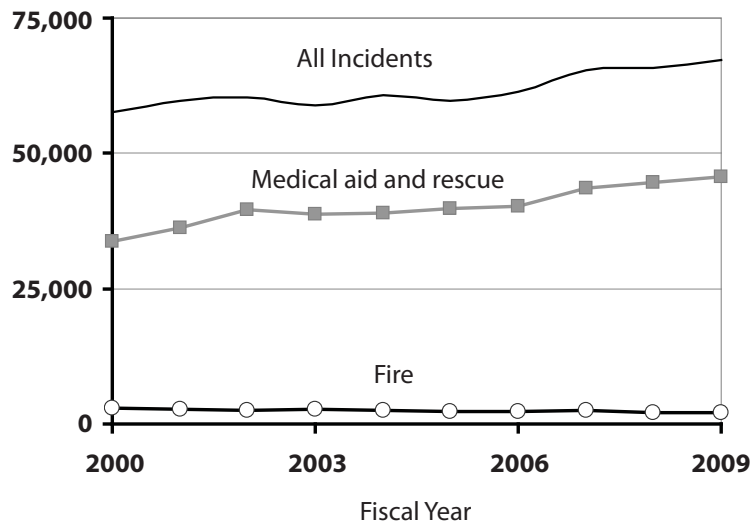
The number of dispatched medical incidents has steadily increased in recent years, and this increase may affect response time in two ways. First, as the total number of incidents increases, the number of delays due to local station firefighters not being available to respond may increase. Non-emergency incidents contribute to this potential cause for delay. Second, firefighters do not have the same certainty about the need for haste when responding to each medical incident as they do when responding to structural fire incidents. Therefore, firefighters may use more caution during travel to some medical emergencies than to others due to travel safety considerations.

Increase in medical incidents

An increase in medical incidents has driven the total increase in incidents, as shown in Figure 5. Although the number of fire incidents has gradually fallen from 4 percent of all incidents in FY 2004-05 to 3 percent in FY 2008-09, in each of the last two fiscal years analyzed, medical incidents were 68 percent of all incidents.

Including non-emergencies, PF&R responded to more than 67,000 incidents in FY 2008-09, an increase of 13 percent from FY 2004-05. PF&R’s expenditures (adjusted for inflation) increased 3 percent in that period, and the city’s population increased about 4.5 percent. Fire’s available staff and vehicles changed little from year to year, with the exception of changes in the number of 2-person medical rescue units. Those were cut completely by 2006, with two restored in April 2008.

Figure 5 Increase in total incidents



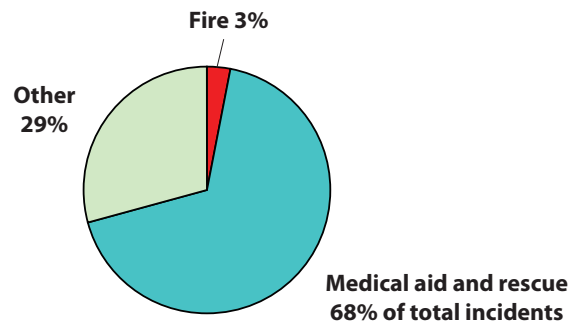
Source: Portland Fire & Rescue data

Figure 6 provides a breakdown of all the emergency and the non-emergency incidents PF&R responded to during the last two fiscal years, as categorized by the Bureau.

Figure 6 Incident categories (PF&R)

Category	Number of incidents in fiscal year	
	2007-08	2008-09
Fire		
Fire in structure	676	700
Fire in mobile vehicle or boat	361	332
Fire in vegetation (grass, woods, crop)	553	496
Fire in outside rubbish, storage, other	452	470
Other uncontrolled fire or explosion	32	18
Medical aid and rescue		
EMS - patient transported by ambulance	22,436	21,425
EMS - invalid assistance needed	308	296
EMS - vehicle accident with injuries	412	400
EMS - other (e.g. ambulance not needed for transport)	20,263	22,179
Rescue (e.g. trapped in crash)	127	118
Med. assist. to other (e.g. police)	577	723
Water rescue	15	23
Other medical	488	506
Hazardous conditions		
Accident, potential accident, no injuries	633	635
Toxic or flammable substance	357	312
Electrical hazard	524	613
Other, including over-pressure rupture	185	198
Fire and EMS aid to other cities	1,485	1,451
Severe weather problems (tree fall)	5	33
Other public service call (no emergency)	6,161	6,785
Caller good intent, but no problem found	3,613	3,437
False calls (equipment and human false alarm)	6,058	6,088
Total incidents	65,721	67,238

(FY 2007-08 and FY 2008-09 were equivalent)



Source: Portland Fire & Rescue data

Non-emergency incidents and activities

As Figure 6 shows, incidents other than fire and medical included requests for a variety of public services, callers' concerns that responders found unwarranted, equipment malfunctioning, and false alarms. Multnomah County has no alternative service to dispatch in response to medical 9-1-1 calls, so BOEC dispatches firefighters to many cases that are not emergencies. These incidents may affect the response time of some emergencies because when the local company is occupied on a non-emergency, even though still considered available for diversion to a Code 3 incident the company can not always leave the scene immediately if dispatched to an emergency.

Bureau management has institutionalized public service as integral to its other values. Consequently, the Bureau is reluctant to say no to responding to low priority incidents that it could legitimately exclude from its workload. For example, during the December 2008 snow storm, when PF&R's vehicles required chains and 9-1-1 calls increased, they provided assistance with flooded basements. An officer told us they would help retrieve a pet if its owner was elderly and distressed. This willingness to serve when dispatched contributes to PF&R's high workload of incidents, which in turn can delay some emergency responses.

Firefighters' other work responsibilities also may sometimes affect response times in a similar way to non-emergencies. When not responding to incidents, companies perform fire prevention inspections of commercial buildings, maintain their vehicles and stations, and attend many types of required training. At times, these tasks may affect response time. For example, a fire company inspecting code compliance on the seventh floor of a building would be available for dispatch but would have to exit the building to reach its vehicle.

Dispatch typecodes

To gauge the need for urgency as they respond to an incident, firefighters have to rely on the dispatch typecode determined by the BOEC call taker and limited information entered into the CAD system. The incident typecode reveals whether or not the call is a Code 3 emergency. To determine the typecode, call takers ask the caller

specific questions for each of 26 medical categories or for even more non-medical categories. For example, for a call about a headache, the call taker must ask whether there was recent trauma to head, history of high blood pressure, and other questions to make a judgment about whether the incident is an emergency or not. For 9-1-1 calls reporting fire, call takers must follow a separate set of questions. When unsure, BOEC must default to a higher response level rather than a lower one. Call takers and dispatchers are allowed 90 seconds to process and dispatch each emergency medical 9-1-1 call, more than the 60 seconds allowed for an urgent emergency fire call.

PF&R officers explained to us that numerous incidents treated by BOEC call takers and dispatchers as emergencies were not, from PF&R's perspective, life-threatening situations. Three potential causes for such dispatches could be:

- Multnomah County's definition of medical "emergency" cited in the City's first responder agreement is overly broad. It includes cases where no life is at stake. Under the definition, emergency includes situations "involving illness, injury, or disability requiring immediate medical services, wherein delay of such services is likely to aggravate the condition and endanger personal health or safety" (MC Code Chapter 21 Section 402). Medical typecodes reflect this definition.
- In FY 2007-08 about 80 percent of calls BOEC handled were dispatched to the Police, which has no triage guides. Managers at PF&R explained that some call takers could understandably be less familiar with using the emergency triage guides needed to typecode medical and other incidents for dispatch to PF&R. PF&R also told us their concern is not about individual call takers. BOEC's view is that using triage guides, call takers handle fire and EMS calls better than calls for police.
- Call processing is managed by BOEC while call response is managed by PF&R. A lack of integrated management across these services could be a factor in triage decisions. The International City/County Management Association

recommends that in jurisdictions where a fire department does not control the 9-1-1 call receipt or dispatch processes, the fire department should work with the manager of those processes to specify what performance measures and performance standards are expected. BOEC and PF&R perspectives differ on this issue.

When firefighters have the information they need, they can appropriately respond to incidents. The effect on response time may be seen in the difference between PF&R's response to emergency medical incidents, for which they need more information, and its response to urgent fires. During FY 2007-08, PF&R's response time to medical dispatches with the highest priority medical typecodes – nearly 11,000 incidents – was 76 percent within 5:20, only one percent better than for all Code 3 responses. In contrast, PF&R met the 90 percent goal for the much smaller number of dispatches to structural fires – less than 500 – about which firefighters had more certainty of the need for urgency (and to which more units were dispatched).

As firefighters travel to an emergency, the company officer can view some information about the incident on a computer in the vehicle. Almost every company includes a firefighter who is also a paramedic, but firefighters are not able to communicate with anyone at the incident scene until they arrive. With limited information, and facing constraints during travel, the company officer decides on route and speed. The officer must use his or her own judgment about how to best protect public safety, knowing that for medical emergencies an ambulance is also on the way. Response may take longer when responding officers have reason to believe that an incident is most likely not an emergency although dispatched as one.

Traveling to emergencies with lights and siren is one of the most dangerous parts of a firefighter's job. When a dispatch typecode and other available information does not indicate that an incident is life-threatening, firefighters may use more caution during travel than they would to incidents in which a life is in danger. For example, if dispatched to a case of sickness not typecoded as life threatening, firefighters may drive at the speed limit rather than faster, know-

ing that one minute more travel time will most likely not make a difference in outcome, as it would at a fire or other life-threatening emergency. The officer must weigh the safety of the public they may encounter on their route and firefighters' safety, in addition to the safety of individuals at the incident scene.

Portland Fire and Rescue follows best practices

To evaluate PF&R's response time performance in a framework broader than the city, we reviewed whether it follows industry best practices. To compare response time with other cities we contacted fire departments in eight cities of similar size for a brief survey. We found that the Bureau follows most of the best practices related to response time that we identified, and has even set some best practices. Experts we spoke to had a positive view of the Bureau. We also found that it was problematic to compare the response times of different cities, as others have reported in literature.

Best practices

We found that PF&R follows 17 of the identified 19 best practices related to response time. The best practices are listed in Figure 7, with our assessment of improvements the Bureau could make. PF&R has been a leader in adopting some practices. For example, PF&R records the time when emergency responders reach a medical patient in addition to when they reach the incident location. PF&R also began using percentile measurement of response time before many other cities did.

Figure 7 Best Practices

Best practices for Professional Fire Departments (related to emergency response times)		Portland Fire & Rescue's Practice		
		Yes	Improvement Needed	
1	Protect civilian and firefighter safety during travel	✓		
2	Accredited through Commission on Fire accreditation International	✓		
3	Continuous quality improvement	✓		
4	Set goal	✓		
5	Use benchmarking	✓		
6	Emphasize prevention	✓		
7	Automatic vehicle locators		Planned for 2011	
8	Paramedic responder in every company of firefighters	✓	Every engine company includes a paramedic. Some truck companies do not.	
9	Combine resources with jurisdictions nearby (mutual aid)	✓		
10	Maintain equipment	✓		
11	Measure Performance	Collect data	✓	
12		Include time when reached patient	✓	
13		Evaluate response time	✓	
14		Percentile measurement (not average)	✓	Document steps in analysis
15		Percent of compliance with time objective		Resume reporting actual percent
16		Use 90th percentile	✓	
17		Evaluate response times annually	✓	
18		Use consistent target	✓	
19		Inform employees about performance	✓	Inform employees about performance sooner than the Annual Report

Source: Research and interviews by Audit Services Division

Reporting the percent of incidents that met the time goal is one of the best practices we identified, and PF&R has reported percent compliance in the past. However, in 2007 PF&R began reporting the maximum response time for 90 percent of responses instead. This provides less information because it does not tie to the goal and is more difficult to understand. The time of the 90th percentile response is sometimes misunderstood as an average.

While PF&R performs a significant amount of data collection and evaluation and has been ahead of other cities in some ways, we found that it could improve these practices. Analysts may correctly use different methods. However, documentation of each step in analysis is important so that the result can be checked and so that the analysis can be done in the same way to reveal trends over time. PF&R staff performing analysis told us such documentation was not done.

Other cities

Emergency response time is not easily compared between cities because ways of measuring response time, expressing goals, and reporting performance vary. According to Insurance Services Office, Inc. (ISO), which evaluates communities' public fire protection, "many fire departments lack accurate and reliable response-time information, and there is no standardized national record-keeping system that would allow us to determine accurate departmental response times." Results of a survey of the largest U.S. cities' emergency response practices confirmed that, "the diversity of measurements in use is significant."¹

As in Portland, fire departments in most cities we contacted use percent of incidents reached as part of their response time goal. Of the four cities using the NFPA standard as a goal, only Seattle reported in the manner NFPA recommends – percent of incidents reached within the time objective for turnout and for travel. This is one example of the differences that made comparison problematic among cities we contacted. Goals and performance reported by the eight cities are shown in Appendix A.

¹ Williams, David M., 2008 JEMS 200 City Survey, Journal of EMS, February 2009.

Of the eight cities we surveyed, PF&Rs performance appears to be faster than that of San Jose and Sacramento, similar to that of Long Beach and Charlotte, and slower than Cincinnati's.

Although the survey did not provide enough information to identify causes for cities' differences in response time performance, the ratio of fire stations to city square miles could be a factor. The area per station ranged from 2.3 square miles per station to 9.4 square miles per station. Portland has over 5 square miles per station, and Cincinnati only 2.8.

PF&R management pointed out an advantage, from its perspective, that some fire departments have over PF&R. Many have fire personnel triaging emergency calls or supervising call handling, unlike Portland where BOEC processes calls. Results of the 2008 survey of large U.S. cities, published in the *Journal of Emergency Medical Response*, confirmed this. It showed that fire departments were the most common provider of emergency medical dispatch, at 28 percent. Combined public safety departments such as BOEC, were second at 23 percent, and ambulance providers were third most common, at 11 percent.

Chapter 3 Recommendations

Firefighters value public service foremost, and they strive under many constraints to safely reach every resident in need of aid. Portland residents appreciate PF&R's fast response to emergencies. They said "slower fire and emergency medical response" would be the most objectionable cut in service, in a scientific survey conducted in 2009 for budget purposes by Davis, Hibbits & Midghall, Inc. Removing companies of firefighters, or medical rescue units, anywhere in the City would likely increase response time in those areas by increasing response distance for many incidents. Because of that, the Bureau needs to maintain at least its current distribution of companies in order to improve response time. PF&R anticipates that response times will improve when the remodeling of stations financed by the current GO Bond program is complete and all temporarily closed stations are reopened.

Overall performance can be improved with the support of others. Increased resources such as the number of companies available to respond and the number of traffic lights with signal preemption could improve emergency response times. To improve current conditions, we recommend that the Commissioner in Charge request the following from City Council:

- 1. In order to avoid increasing response time, ensure the Fire Marshal's direct involvement prior to modifying roadways in ways that may slow emergency vehicles.**

To ensure that PF&R will be involved in such decisions currently made by other bureaus, direct involvement should be sought early in the planning process of structures such as speed bumps and development affecting street width. In addition to any single change, emphasis should be placed on overall impact when multiple changes are considered. City Fire Regulations

already provide that “the Fire Marshal, with the approval of the Fire Chief, is authorized to make and enforce such rules, regulations and policies for the prevention and control of fires and fire hazards...” (Chapter 31.10.050). Control of fires and some fire hazards requires fast access to the scene of incidents.

2. Clarify the definition of medical emergency used in the City’s first-responder agreement with Multnomah County to limit lights and siren travel to incidents.

This should give firefighters more certainty about which incidents are truly urgent. For example, the City could incorporate a new definition based on the State’s definitions of both “emergency care” and “nonemergency care” which, if taken together, clarify that the intent of emergency care is to perform acts or procedures on a patient who would otherwise be expected “to die, become permanently disabled or suffer permanent harm within the next 24 hours...” (ORS 682.025).

To improve PF&R’s practices related to response time we recommend that the Commissioner in Charge direct the Fire Chief to:

3. Resume reporting the former response time performance measure of percent of incidents reached within the time objective, which is currently 5:20.

Since the goal is to arrive at a minimum of 90 percent of incidents within that time, the actual percent arriving within the time needs to be provided to other decision makers and the public so they can understand and evaluate PF&R’s performance. This is not a recommendation to stop using any other measure that PF&R finds useful, but only to resume reporting this key measure.

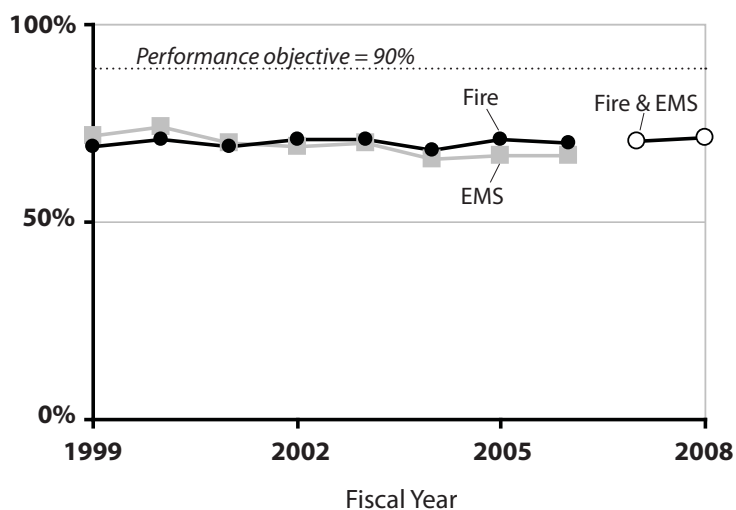
4. Document steps in PF&R’s methodology for calculating each of its performance measures including its performance measures of emergency response time, to ensure that analysis can be checked and trends can be understood.

For example, describe incidents included in a measure, define terminology used, list data sources and queries, and identify software and procedures.

Chapter 4 Objectives, scope and methodology

The primary objective of this audit was to determine why PF&R was not achieving its emergency response time goal of 90 percent of responses within 5:20. The Auditor's Office had reported the difference between the goal and performance in Service Efforts and Accomplishments (SEA) reports for at least the prior 10 years. Figure 8 illustrates response time performance that PF&R reported through FY 2005-06 and our preliminary estimate of its performance for the next two years, when PF&R no longer reported performance in terms of percent of responses meeting the time objective. Our second objective was to determine how response time could be improved.

Figure 8 Response time performance city-wide (percent of responses meeting time goal)



Source: 1999-2006 Portland Fire & Rescue. 2007 & 2008 calculated by Audit Services using combined PF&R data (fire & EMS)

Note: Since 2006, PF&R has not reported performance as percent of emergency responses meeting time objective.

To meet both of our objectives, we examined the basis for the Bureau's goal for response time, the Bureau's performance relative to its goal and relative to other cities, the variation in response times among different areas of the city, and reasons why the Bureau was not meeting its goal. In addition to examining causes, we researched best practices for professional fire departments and determined whether PF&R was following those practices.

Our scope was limited to the portion of response for which PF&R is responsible – beginning at dispatch by BOEC – and the arrival time of PF&R's first-arriving unit at each emergency incident. We did not evaluate the response time of additional units needed at some incidents, such as at structural fires, or the time the Bureau spent at the scene of an incident. We reviewed PF&R's internal controls within this scope.

We reviewed historical and recent technical documents prepared by PF&R and its consultant, TriData; Bureau policy documents; and Bureau videotapes used for training. We reviewed City agreements with Multnomah County, City and County Code, and meeting notes of the Multnomah County EMS Dispatch Committee. We also reviewed Oregon Revised Statutes Chapter 682; literature published by the American Heart Association, the U.S. Fire Administration, the National Fire Prevention Association, and the International City/County Management Association (ICMA); and other professional literature addressing emergency response and constraints to response.

We conducted over 25 interviews during the course of this audit. More than half of these were interviews of PF&R managers and staff. One of these interviews was conducted during a visit to three fire stations that included riding along in a Command Vehicle, an Engine and a Ladder Truck. We also interviewed managers and staff in BOEC and PBOT and in Multnomah County's Emergency Medical Services Program; a representative of the Portland Fire Fighters' Association; and experts in the industry. In addition to Multnomah County's EMS Director, these experts included a Senior Consultant at Fitch and Associates who has authored several annual JEMS 200 City Survey reports published in the Journal of EMS; a senior research analyst at TriData, and the editor of the ICMA book *Managing Fire and Rescue Services*, published in 2002.

To independently evaluate PF&R's response times, we first obtained incident time records from the Bureau, for FYs 2003-04 through 2007-08. With the assistance of the Bureau of Technology Services, we also obtained incident time records directly from CAD later on in our work, in order to do the following: a) differentiate between dispatch typecodes, not included in the data we had obtained from PF&R; and b) gain additional independence in our analysis. We calculated response time performance using the population (not a sample) of first-arriving units that traveled Code 3, and using SPSS for Windows, Rel. 12.0.1 and Microsoft Office Excel 2003 software. To assess the reliability of this data, we reviewed system descriptions, BOEC standard operating procedures and other relevant documentation. We also interviewed PF&R, BOEC and BTS bureau officials knowledgeable about the data. We determined that the data were sufficiently reliable for the purposes of this report.

To compare PF&R's emergency response times with those of other cities, we contacted eight cities to obtain information surrounding incident response times and other characteristics of their fire departments. Each city selected was in one or more of these categories: a) six were comparison cities that the Auditor's Office has used in our annual Service Efforts and Accomplishments reports; b) seven were comparison cities that TriData, PF&R's consultant, used in its 2006 study; and c) four were cities the Portland Fire Fighters Association recommended as comparable. Each of the eight cities we contacted completed a survey. They were: Charlotte, North Carolina; Cincinnati, Ohio; Denver, Colorado; Kansas City, Missouri; Seattle, Washington; and Long Beach, Sacramento, and San Jose, California.

We completed our analysis prior to the end of FY 2009-10.

We were told in many of our interviews with PF&R personnel during this audit that more involvement by PF&R in decisions made during call taking and dispatch by BOEC could improve response time. We did not review BOEC in depth during this audit but do plan to audit it in the near future.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require

that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix A

A-1 PF&R's goal compared to NFPA and other cities

TIME INTERVALS (minutes: seconds)

	Call to 911	Call answered, processed and dispatched	Turnout (prepare to leave)	Travel to incident location, first arriving company
NFPA Standard 1710 (as of June 2009)			Fire turnout 90% in 1:20 EMS turnout 90% in 1:00	travel 90% in 4:00
Portland, OR				response time 90% in 5:20 (same as current NFPA for fire incidents)
Kansas City, MO				Less than 5:00
Long Beach, CA				80% in 6:00 fire 80% in 4:00 EMS
Charlotte, NC				80% in 6:00
San Jose, CA				80% in less than 8:00
Cincinnati, OH				NFPA 1710
Sacramento, CA				NFPA 1710
Seattle, WA				NFPA 1710
Denver, CO				NFPA 1710

Sources: Portland Fire & Rescue (PF&R), National Fire Protection Association (NFPA) standards, goals reported by other cities (not audited).

A-2 Performance measurement reported by city Fire departments 2008

TIME INTERVALS (minutes: seconds)

	Call to 911	Call answered, processed and dispatched	Turnout (prepare to leave)	Travel to incident location, first arriving company
Portland, OR				PF&R: 90% in 6:42 fire 90% in 6:57 EMS
Long Beach, CA				90% in 7:17 fire 90% in 6:14 EMS
San Jose, CA				80% in 9:06 fire 80% in 7:39 EMS
Charlotte, NC				77% in 6:00 fire 79% in 6:00 EMS
Kansas City, MO				not reported
Cincinnati, OH				90% in 3:53 fire 90% in 4:50 EMS average 5:30
Sacramento, CA				
Seattle, WA			31% in 1:00	84% in 4:00 fire 86% in 4:00 EMS
Denver, CO				85% in 4:00

Source: Comparison city information - telephone and email communication, or city website or news media.

Note: Other aspects of performance measurement may also vary

Responses to the Audit



PORTLAND FIRE & RESCUE



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June 30, 2010

The Honorable LaVonne Griffin-Valade
Auditor, City of Portland
1221 SW 4th Avenue, Room 140
Portland, OR 97204

Subject: Commissioner and Portland Fire & Rescue Response to Auditor's Report on Emergency Response Time.

Dear Auditor Griffin-Valade,

Portland Fire & Rescue (PF&R) and Commissioner Leonard's Office thanks the Audit Services Division for conducting an audit of response times. PF&R's ability to respond safely and quickly to the public's call for service with reliable apparatus and highly trained personnel is our primary mission.

PF&R welcomes this audit and the opportunity it presents to look for response efficiencies.

We appreciate acknowledgement from Audit Services that the bureau gives high priority to safety practices and follows nearly every industry best practice.

With that said, PF&R also recognizes that enhancements can and should be made to improve response times.

PF&R is supportive of the recommendations noted in the Auditor's report, specifically the bureau supports ensuring the Fire Marshal's direct involvement with regards to traffic calming and access issues, working with PF&R's Physician Supervisor, Multnomah County Emergency Medical Services and the Bureau of emergency Communications to increase efficiencies for first responder services as well as improvements in how PF&R documents and measures response time performance.

PF&R is able to implement recommended improvements to measure response time performance immediately and will work towards implementing increased Fire Marshal involvement and improvements to first responder services in Fiscal-Year 2010-2011.

We appreciate the professionalism of the Auditor's office and the time committed to auditing a very complicated area. PF&R believes implementing Audit Services' recommendations is important not only to safeguard the public, but to improve overall service delivery by PF&R.

Thank you for the opportunity to review and comment on the report as well as provide a written response.

Sincerely,

Randy Leonard
Commissioner

John Klum
Chief



CITY OF
PORTLAND, OREGON

Amanda Fritz, Commissioner
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To: Auditor LaVonne Griffin-Valade

6/30/10

From: Amanda Fritz, Commissioner in charge, Bureau of Emergency Communications

RE: Draft Audit on Fire and EMS Response times

Thank you for the opportunity to comment on the Audit on Fire and EMS Response.

I have three areas of concern.

- Recommendation #2 states, "Clarify the definition of medical emergency used in the City's first-responder agreement with Multnomah County to limit lights, and siren travel to incidents."

The report indicates that some Fire personnel responding to a medical emergency believe that they must evaluate the severity of the emergency in order to determine at what speed they need to respond, even though that emergency has already been coded by the 911 caller. As stated, one of the most dangerous aspects of a Fire fighters job is driving through the urban obstacles (lights, pedestrians, traffic, speed bumps, construction, etc.) to get to the desired destination. The faster the response the more danger of other incidents occurring along the way. The proposed solution in Recommendation # 2 is to change the classification of what is an emergency. The definition of a medical emergency as originally written by Multnomah County is assumed by this recommendation to be overly broad and in need of refinement to eliminate incidences of non-emergency responses by the Fire Bureau.

This recommendation is based upon assumptions that

- a) the definition needs clarification;
- b) it is possible for call takers to accurately determine the nature and severity of a medical emergency by asking more questions over the phone in the time allowed; and
- c) changing the definition will result in reduction in incidents classified as emergencies, so that non-emergencies would not count in response time

The Audit recommendation appears to stem from statements from Fire responders that some emergencies have been miscoded by call takers, and when they arrive on the scene they encounter what would be considered a non-emergency situation. BOEC, PF&R and the County, have jointly developed and follow protocols for which the call takers must rely upon to determine the level of the emergency, therefore the Audit suggests that the ultimate culprit is the definition itself. That claim is unsubstantiated. The recommendation is to change to the definition, without any evaluation as to whether the definition is incorrect in the first place.

The Recommendation asserts changing the definition of medical emergency "should give firefighters more certainty about which incidents are truly urgent." This claim is unsubstantiated. Call takers are not licensed medical practitioners, and callers are often stressed and unable to give accurate information about the exact symptoms of a medical concern. Any change in setting the urgency of a medical call should also take into consideration the dangers of not responding quickly enough to symptoms that have been misreported.

The recommendation should instead be to have those agencies involved in emergency response evaluate whether or not the definition can be redefined better to suit the needs of the public. Clarifying a definition to have a specific outcome – a reduction of incidents that requires use of “lights and siren” -- may not in fact be possible or desirable, because the definition and the interpretation of any new clarified definition by a call taker may not in fact be prudent or possible given the nature of medical emergencies.

- Clarification of BOEC dispatch protocols with Fire Response:

I understand this Audit is focused on the Fire Bureau and what it can do to provide better response times. The Audit accurately describes the dispatch coding process on pages 24 - 25. However it is implied in other parts of the report that BOEC call-takers determine the emergency status of each incident, thereby affecting the response time. It is also asserted that the triage guides may be one reason for the emergency status being inaccurate causing response to what ultimately turns out to be non-emergencies and which in turn delays response to the real emergencies. These characterizations are not accurate. BOEC and Multnomah County determine the protocols for emergency response in collaboration with Portland Fire & Rescue.

Triage guides are a result of that interface with these other agencies. Call takers have very little discretion on how to categorize calls, and dispatchers send responders according to those agreed-upon protocols. Using triage guides makes fire and EMS call handling more consistent and in the long run more reliable. The absence of complete information and/or the presence of misinformation are inescapable realities of any emergency communications system. Fire fighters and BOEC staff continually address this challenge, and BOEC has instituted regular performance reviews of staff to identify areas needing improvement. Performance improvement assessments in routine monthly reviews of calls by employees and supervisors have not found problems with the triage protocol being improperly applied, or lack of familiarity and expertise in use of the triage tool.

- Addressing the System rather than the Part:

Since no bureau works in isolation, an essential component of any City of Portland Audit should be to provide recommendations for mechanisms to make the system as a whole work better. I recognize the audit sought to analyze Portland Fire & Rescue performance, rather than the Bureau of Emergency Communications staff, however, evaluating how PF&R interacts with and is served by BOEC is essential to understanding the issue. Communication between bureaus is imperative. There are obvious connections between many bureaus in an emergency and faster response times. While I recognize the audit was focused on PF&R, in this case, recommendations for one Bureau cannot be implemented without making assessments and recommendations for another Bureau that is technically not part of the Audit. This “Audit in Isolation” approach may yield benefits for some situations, but in this case misses the mark. A Systems Audit would provide a more accurate assessment of the real problems rather than perceived or alleged problems.

In response to the Audit's reports of concerns voiced by PF&R managers, I have asked Lisa Turley to require BOEC team work with PF&R to document their current philosophy on call taking and dispatch parameters to create a base document signed off by both John Klum and Lisa Turley, and then to establish protocols requiring documentation from the Fire Chief and BOEC Director on any subsequent changes to that document.

I appreciate your attention to addressing the issues outlined.

Amanda Fritz.; Commissioner, City of Portland



CITY OF PORTLAND

BUREAU OF EMERGENCY COMMUNICATIONS

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June 30, 2010

Auditor LaVonne Griffin-Valade
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Dear Ms. Griffin-Valade,

Thank you for the opportunity to address the information in your report: "Portland Fire & Rescue: Emergency response time goal not met, though PF&R strives for excellence" of July 2010 on behalf of the Bureau of Emergency Communications. BOEC strives to provide the best possible service, and we welcome the opportunity for improving the response to emergency calls handled by BOEC for PF&R.

There are two fundamental misconceptions in the report.

First is the belief that BOEC determines whether an incident is an emergency or not. In fact, BOEC very specifically does not determine whether an incident is, or is not, an emergency. BOEC's role is to administer the call processing and dispatch protocols of the responder agencies. Those agencies determine what constitutes an emergency and how they will respond to the emergency. For example, Multnomah County EMS directs BOEC to ask each caller specific, scripted questions. The nature of a call is defined based on the caller's answers to those questions. Then, the dispatch priority and complement of responders is assigned based on predetermined (by MCEMS) direction and guidelines for the nature of that call. Likewise, fire-related calls are processed under strict protocols set forth by PF&R. Scripted questions must be asked - the answers determine the nature of the call and the nature of the call determines the priority of response.

The second misconception is that BOEC obtains information relevant to response, but does not pass that information on to responders. In fact, the absence of complete information and/or the presence of misinformation are inescapable realities of any emergency communications system. A calltaker's window into a reported incident is narrow under the best of circumstances. Hysterical callers, contradictory perspectives, uncooperative, hostile, or absent witnesses muddy the view immeasurably. The added need for urgency in processing emergency calls means that the window is constantly moving. PF&R responders are given all relevant information available to BOEC. This is exactly the same as when they were given all relevant information available to the PF&R personnel employed at Fire Alarm Dispatch, prior to the City's shift to having professional, highly trained telecommunications employees (calltakers and dispatchers) and management.

Competence – Integrity – Respect – Responsibility – Teamwork - Compassion

The opinions and misconceptions asserted in this report do not reflect the level of active, ongoing involvement PF&R enjoys in BOEC's operation and policy-making. They do not reflect the day-to-day collaborative work of either bureau.

Thank you again for bringing this information to my attention and for the opportunity to respond. The fact that these misconceptions do continue to exist demonstrates to our team here at BOEC that we need to intensify our efforts at continuous process improvement through accountability, in addition to working harder to communicate better and more often with our partner agencies and with Audit Services.

Respectfully,

Lisa Turley
Director

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Portland Fire & Rescue: Emergency response time goal not met, though PF&R strives for excellence

Report #366, July 2010

Audit Team Members: Beth Woodward, Bob MacKay,
Kari Guy, Jenny Scott, Martha Prinz, Scott Stewart

This report is intended to promote the best possible management of public resources. This and other audit reports produced by the Audit Services Division are available for viewing on the web at: www.portlandonline.com/auditor/auditservices. Printed copies can be obtained by contacting the Audit Services Division.

LaVonne Griffin-Valade, City Auditor
Drummond Kahn, Director of Audit Services

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