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Three Cities Fire and Emergency Services Project

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Three Cities Fire and Emergency Services Project

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I. Project Overview & Executive Summary with Key Findings

Project Background and Overview

Fairview, Troutdale and Wood Village, and all other Oregon cities, are responsible for providing their citizens with fire and emergency medical (EM) services. Rather than establish internal city fire departments, the Three Cities entered into an intergovernmental agreement (IGA) to purchase services from the City of Gresham in March 2006. These services include fire suppression, fire prevention, emergency medical services, and hazardous materials response (2005 Fire Service IGA). Under this IGA, the Three Cities collectively reimbursed Gresham \$2.705 million for FEMS in 2012-2013. The current IGA will expire June 30, 2015, and the Three Cities are preparing to review their arrangements for fire and EM services.

In March 2013, the Portland State University (PSU), Center for Public Service (CPS) entered into a consulting agreement with the City of Troutdale, acting for itself and on behalf of the cities of Wood Village and Fairview, in a project to analyze the services provided under the Gresham Fire and Emergency Services IGA. The Portland State CPS team and the Three Cities agreed to treat the Three Cities as a combined, single entity for project analysis purposes.

The consulting agreement between CPS and the Three Cities defined the following analysis areas and work task deliverables:

- An analysis of current fire and EM services **system charges and tax revenue structures** (Task I),
- A **"Call for Service" profile** analysis, showing the types and frequency of both routine calls and major events – e.g. a detailed break-out of medical calls vs. fire-focused service calls (Tasks II & III),
- An **administrative cost and program capital cost analysis**, showing what Three Cities' citizens are paying to support service delivery,
- A **station-centered cost analysis** based on Gresham Fire and Emergency Services operation of Stations 74 and 75. (Task V),
- The development and comparison of various **service delivery alternatives**, including (but not limited to) re-negotiating the existing contract and service arrangements with Gresham; establishing new service offerings, either within the existing Gresham contract or through the creation of a new entity; and/or shared services arrangements with other entities. (Task VIII).

The study team was led by Dr. Kent Robinson, an adjunct professor associated with PSU's Center for Public Service (CPS), a division of the Mark O. Hatfield School of Government. Other members of the team were Bob Winthrop, a senior CPS Fellow; and Geoff Wullschlager and Lisa Durden, both graduate students in PSU's Master of Public Administration (MPA) program.

The consulting agreement task order called on the team to assess and understand the full Gresham Fire and Emergency Services (GFES) system from a service and financial perspective. Building on the full-system assessment, the team next focused on the Three Cities as a unique, combined service area. This led to development of an incident risk analysis for the Three Cities, an assessment of current services responding to those risks, and a brief financial review of current and potential tax revenues available to the Three Cities. Lastly, CPS developed a menu of service delivery options that could help Three Cities elected officials, executive administrators and citizens understand possible alternative service delivery arrangements. The team developed the menu of alternatives based on information from the GFES and from other comparable fire districts.

The project team gathered and analyzed three types of data -- quantitative, financial and qualitative information to accomplish our study tasks. The quantitative dataset comes from the City of Portland's Bureau of Emergency Communications (BoEC), which is responsible throughout Multnomah County for fire and emergency medical incident location, dispatch, and the recording of response times, incident type, municipality and responding units. The BoEC dataset for the Three Cities covered an 806 day period from April 17, 2011 to June 30, 2013. This start date reflected completion of BoEC's major reconfiguration and upgrade of its call for service database system. The CPS Project Team used Microsoft Excel to analyze the BoEC dataset for both the full Gresham FES system and for the Three Cities as a unified, hypothetical jurisdiction. BoEC data was also cleaned and used to plot call occurrence, call intensity and system response times with a geographic information system (GIS).

In addition, the project team gathered financial and taxation data from a number of published sources including: annual budgets and Comprehensive Annual Financial Reports (CAFR) from the City of Gresham and other cities; taxation data from the Multnomah County Tax Supervising and Conservation Commission (TSCC); and county assessor webpages. To gather qualitative data on the GFES system, on the service situation faced by the Three Cities, and on possible service delivery options, we conducted a series of interviews. Fire chiefs in several districts generously provided time, information and counsel. Mr. Frank Ray, analyst with the City of Gresham FES was consistently helpful in providing information and in validation of our estimates.

Executive Summary with Key Findings

Key Finding #1: Contrary to popular perception, emergency medical services (EMS) are the primary product purchased by the Three Cities and their residents. Gresham FES responds to about 5 “medical” calls for service per day and fewer than 2 calls per day initially labeled as “fire” calls. Within the “fire category,” an actual “structural fire” is far less common, occurring about once every 25 days.

According to BoEC records, the Three Cities service area generated about 2,540 service calls annually, or an average of about 7 calls per day. BoEC 911 operators initially assigned about 74 percent of these calls to the broad category of “medical” and the remaining 26 percent to the broad category of “fire.” Based on these percentages, Gresham FES responds to an average of almost 5 medical calls per day, and a little fewer than 2 fire calls per day.

Of the medical calls, approximately 2 each day involve a potentially life-threatening, time sensitive “Priority 1” medical emergency. Another view reinforces the importance of medical services. A medical call on average takes about 1 hour of service time, while a fire call takes on average about 30 minutes. Over a full year, Gresham FES personnel spend about 88 percent of their field service time responding to medical calls, and only 12 percent of their time dealing with “fire” responses.

It is also worth noting that the vast majority of calls within the category officially labeled as “fire services” do not involve active structural fires. The single largest sub-category within this category is Alarms. Other significant “fire services” sub-categories include traffic accidents, hazardous materials incidents, water rescues, vehicle rescues, public assistance service calls, and a category labeled “Other” calls.

Within the category of actual fires, structure fires do occur, but rarely. During our 806-day analysis period of April 2011 to June 2013, the Three Cities recorded only 38 residential, commercial, chimney, or apartment/multiple dwelling structural fires. There were 19 equipment and appliance fires, 1 railroad fire, and 3 dumpster/ trash can fires. More common, however, were calls for illegal (outdoor) burning; grass, bark dust, tree fires; and smoke investigations (inside and outside). Within the Three Cities’ service area, an actual structural fire – be it of a residential, apartment or commercial building – occurs about once every 25 days. Meanwhile, on a daily basis, there are many more medical calls that take more service time, than fire service calls.

Key Finding #2: The current fire and EMS provider system meets high professional standards; however, the Gresham Fire and Emergency Services (FES) system, like many systems, is designed and weighted to be more responsive to potential structural fires, than to actual medical emergencies.

There is broad agreement that Gresham FES delivers professional, high quality services, and that its firefighters and other personnel effectively integrate and support local police, ambulance personnel and other emergency responders. However, we found that the Gresham FES is primarily configured to respond to structural fires, rather than to the more numerous calls for emergency medical services. We believe that the system could be more effectively configured to respond to the more numerous emergency and non-emergency medical calls. Though a “reconfigured” system does not imply a complete redesign of the existing system it would clearly involve the greater use of 2-person, rapid response vehicles rather than relying solely on large fire engines.

Regardless of whether BoEC initially classifies a 911 or other emergency-related call as a medical or fire emergency, Gresham FES routinely dispatches a fire engine, with a 3-person crew outfitted in fire protection gear. This standard unit simplifies dispatching, but it may slow response times for medical calls as the firefighters don their gear before leaving the station. On medical calls, BoEC simultaneously notifies American Medical Response (AMR), a private provider, which sends an ambulance to the scene to provide medical assistance and (if needed) medical transport. This typically results in five responders at a medical incident, which may result in an excessive use of resources. This specific "one engine-one ambulance" configuration of responders occurs in about two-thirds of all calls to which GFES responds. This amounted to just under 3,500 calls in the Three Cities service area from April 2011 to June 2013, and about 8,200 calls over the entire Gresham system in 2012.

The Gresham FES system's configuration towards fire response also has implications for resource availability and system reliability. The Gresham FES fully operates six stations (Stations 71, 72 73, 74, 75, 76), and jointly funds and operates (at about a 1/3 level) another with the City of Portland (Station 31). System-wide, 65 percent of all calls last sufficiently long enough to overlap with one or more subsequent calls. In many instances, the overlapping calls occur on opposite sides of the system, with no stress on system response reliability. However, where the overlapping calls occur within the same sector ("fire management response area"), "system reliability" often becomes compromised. With one engine and crew already out on a call, another, more distant crew must travel an added distance to respond to the second call.

The Gresham configuration of stations and crews compounds the system reliability issue. National fire suppression standards require the presence of at least 4 firefighters on site to enter a burning building. Many fire systems operate with a significantly more expensive configuration of 4-person crews in order to meet this national standard with a single vehicle. Gresham FES has made a major cost saving move and operates a 3-person engine. This has saved the system and taxpayers millions of dollars in personnel wages and benefits over the years. However, to meet the national standard for firefighter safety, the system must dispatch two engines, with a total of 6 crew members, on any call with potential for a structural fire or enclosed rescue. The two engine requirement empties two stations and places stress on the larger system, which increases response times for subsequent overlapping calls.

Key Finding #3: Among comparable medium-large, professionally staffed, suburban fire/EMS systems and districts, Gresham FES is a low-cost provider. Both in terms of cost per resident, and of cost per \$1,000 property value, GFES has lower costs than the Salem, Medford, Hillsboro and Tualatin Valley Fire & Rescue (eastern and central Washington County).

Compared to its peer systems, the Gresham FES is a lower cost provider. On a cost per resident basis, Gresham provided fire and EM services in 2012-13 at \$121.77 per resident. This compared with \$147.65 in Medford, \$156.97 for the Tualatin Valley Fire & Rescue Service in Washington County, and \$163.27 in Salem. On the basis of per \$1,000 assessed property value, Gresham provides services at \$1.88/\$1,000 value. This contrasts with a low of \$1.64 under Tualatin Valley Fire & Rescue, and \$2.02 in Hillsboro. While the top salary step for Gresham firefighters is second only to Medford's among this group (\$76,400 vs. Medford's \$79,000 annual), its PERS contribution rates are not excessive. As described above, Gresham's use of three-person crews that largely accounts for significantly lower personnel and operating costs, though these savings come at a cost in system reliability, system flexibility, and increased response times.

Importantly, the City of Gresham property tax revenues barely cover the costs of the City's public safety functions (police, and fire and EMS). This limited tax revenue has forced the GFES to learn to operate efficiently. A lack of resources may have also constrained GFES from creatively restructuring its services to place a primary emphasis on immediate and prompt response medical services.

Key Finding #4: Under the current IGA, Three Cities residents are receiving fire and EMS services for about 20 to 30 percent less than Gresham and RFD#10 residents.

On a "cost per resident" basis, Three Cities' citizens are currently obtaining fire and EMS for about 30 percent less than their City of Gresham counterparts (\$94/year vs. \$129/year). Moreover, as discussed above, Gresham FES system is a relatively low cost provider. This means that Three Cities' residents under the current contract are receiving FEMS services at about one-half to two-thirds the cost per resident than their counterparts in many other Oregon jurisdictions.

Even with the relatively smaller per share contribution, the Gresham FES benefits by having the Three Cities as part of the full system. The Three Cities residents contribute about 20 percent of the clients and taxpayers of the Gresham FES. Including the Three Cities residents in the system allows Gresham FES management to spread the fixed costs of equipment, facilities, and a trained organization over a larger number of beneficiaries. Having a larger system also provides additional capacity to the system and greater flexibility in assigning equipment. The size of the Gresham FES allows it, to some degree, to compensate for using three person engines and the resulting system reliability issues as we described above.

Key Finding #5: While the Three Cities residents are paying less for fire and EM services, their overall demands on the system relative to their Gresham counterparts are marginally less (about 88 Three Cities calls per 1,000 residents vs. 93 Gresham calls per 1,000 residents).

By two indicators, Three Cities residents' overall demand and impact on the Gresham FES system are less than their City of Gresham counterparts. Three Cities residents as a group on average demand fewer services. During the study period, Gresham residents accounted for 93 service calls per 1,000 population, a rate about 6 percent higher than the Three Cities average of 88. Troutdale residents are "light users" of the system with 75 runs per 1,000 residents. In contrast, in Wood Village with a much smaller total population, but with commercial areas and group care facilities, the rate is 120 runs per 1,000 residents. Fairview residents use the system at a rate of 97 runs per 1,000 vs. the Gresham FES system average of 98 runs.

Based on a second indicator, 26.5 percent of Three Cities' medical calls are "Priority I" emergencies. The comparable figure is 29 percent for the rest of the system.

Key Finding #6: Based on call response times, Three Cities residents receive lower service levels than most other users of the Gresham system. For Priority 1 medical call response times, more calls take 6 minutes or longer, and fewer calls are responded to in 4 minutes or less.

There are noteworthy differences in call response times, largely to the disadvantage of Three Cities residents. Fewer service responses meet the 4 minute standard in the Three Cities than for other parts of the Gresham FES. In the Three Cities service area, 24% of

calls are responded to within 4 minutes, while in Gresham and RFD10, 29% of the calls are responded to within the 4 minute standard. Perhaps more important are delayed response times of over 6 minutes. According to BoEC records, for 32 percent of all service calls within the Three Cities, the response time is more than 6 minutes or greater. This compares to 22 percent of calls with a 6 minutes or greater response time for the rest of the system. The delay in receiving services can be especially critical in life-threatening medical emergency, such as a sudden cardiac arrest, stroke, serious trauma, or serious breathing problems. Many of the longer call responses reflect extended travel times from station 74 in northwest Gresham to northern Fairview, Blue Lake Park, and east to Wood Village.

National standards set a goal of having at least 90 percent of such calls responded to within 6 minutes. Yet for the two stations that primarily serve the Three Cities – Stations 74 and 75 – the documented response times for Priority I medical calls meet this standard just 73 percent and 74 percent of the time, respectively. Of Gresham FES' urban and suburban stations, excluding the largely rural and least-used Station 76, these two stations have the worst response time performance in the system.

Key Finding #7: The location of the Gresham FES stations and “overlapping” calls stretch system reliability and response times.

We explained above that the Gresham FES fully operates six stations (Stations 71, 72 73, 74, 75, 76), and jointly funds and operates another with the City of Portland (Station 31). System-wide, 65 percent of all calls last sufficiently long enough to overlap with one or more subsequent calls. In many instances, the overlapping calls occur on opposite sides of the system, with no stress on system response reliability. However, where the overlapping calls occur within the same or adjacent sectors (fire management response areas), “system reliability” often becomes compromised because with one engine and crew already out, another more distant crew must travel an added distance to respond to the second call. Increased travel times result in increased response times and poorer response performance. Reliability issues and response times are especially relevant to the Three Cities service area because the stations that primarily serve the Three Cities--Stations 74 and 75--rarely backstop each other. To provide reliable coverage during overlaps, engines from downtown Gresham more often must drive north to respond to calls in the Three Cities service area.

The three-person engine crew configuration used by the Gresham FES exacerbates system reliability problems. Any combustion fire or major event empties at least two stations to meet the national standard of four firefighters on scene to enter a burning building. Ensuring sufficient staffing on a major event opens reliability issues throughout the rest of the Gresham system.

Key Finding #8. The current IGA between the Three Cities and Gresham does not include a requirement for reporting service quality, performance, productivity and accomplishment metrics. In reaching an agreement with any provider, best practices suggest that the Three Cities should include contract provisions to require the preparation of a standards of cover document, maintenance of a performance analysis and reporting system, and the routine delivery of performance reports.

The current IGA between the Three Cities and Gresham was negotiated before provider performance, productivity improvements, and accomplishment measurements were widely understood to be procurement best practices. These provisions are now standard features of all large service contracts or intergovernmental service agreements. The information generated on performance, productivity and objective accomplishments provide the data

that will allow the Gresham FES leadership to reconfigure the system to provide higher quality service at less taxpayer cost. Reports of productivity and performance improvement also provide a means to compare the Gresham FES performance with that of other major fire and EMS providers. This is critical information for building taxpayer trust in the Gresham FES.

The Gresham FES has never prepared a standards of cover document. Again, this type of analysis has become a widespread best practice since the current IGA was adopted in 2006. Such a standards of cover analysis would include: a comprehensive demographic analysis of the service community; a community risk analysis of the different types, severities and locations of emergency medical and fire incidents; and protocols and criteria defining the response times, equipment and the number of personnel (professional and volunteer) that will be deployed to each type of incident. A standards of cover analysis would also specifically address both fire and medical service incidents and responses.

The standards of cover document explains to elected officials, administrators and the public the service levels they can expect to receive for each type and intensity of emergency incident. This information is critical for public decision makers trying to make trade-off decisions between incident needs and desired service levels with available and potential financial resources. While this report provides much of the information that Three Cities decision makers might find in a standards of cover document, it's important to note that our analysis is limited to the Three Cities service area.

Key Finding #9: In addition to re-negotiating a new contract with Gresham FES, there are several service delivery options that the Three Cities could pursue for the future provision of fire and EM services. Several of these options could result in equivalent or even better service levels, though at potentially higher costs.

The Three Cities could pursue a number of service delivery alternatives for future fire and EM services. The Cities could renegotiate with the City of Gresham to continue serving their citizens through the current configuration, or one that was modified by mutual consent. Negotiations with Gresham could also lead to system reconfigurations and redeployments that could lower both unit costs and annual contributions.

If the Three Cities were to elect not to renew their IGA with Gresham, and move to create their own, independent arrangements to provide fire and EMS services, several service scenarios are possible. However, any new fire and EM services arrangement would need to meet basic criteria of coverage, response times, and equipment and personnel capacity for major events.

We developed a number of station and equipment configurations in the alternatives section in this report. The menu of options is detailed in chapter VII below. The alternatives include: refinements and changes to procurement procedures; several different configurations of fire and EM service through a new "Three Cities" entity; and several different arrangements via new or existing special districts.

Most of the alternatives examined involve increased costs over the current Gresham IGA. However, there may be selected opportunities to reconfigure Gresham services in a manner that would reduce costs below the current level. Because the Three Cities would compare firefighter salaries against smaller lower paying districts, the Three Cities could arguably lower contract labor costs for its core, full-time professionals.

Key Finding #10: Most options, especially those involving the Three Cities only, require new capital costs and present significant operational challenges.

The Gresham FES relies on two fire stations, Stations 74 and 75, to cover fully the Three Cities service area. Even with this two-station arrangement, Priority 1 response times are consistently slower than in the other urban and suburban parts of the system. Any independent Three Cities service delivery arrangement would need some combination of multiple stations. This combination could include a single large, centrally located main station and a smaller satellite station, or two full service stations located on opposite sides of the Three Cities service area. All of the independent options require an up-front capital cost of about \$4.5 million for a new fire station, and for new fire engines and capital equipment.

Station 75 is owned by Rural Fire Protection District 10 (RFPD10), which currently shares capital maintenance and reconstruction costs with Gresham. In the menu of service delivery options, we examine several two-station configurations for an independent Three Cities fire department or district. Station 75 could continue as one of the two stations, for these alternatives. After negotiations with RFPD10, Station 75 would likely be available to an independent, Three Cities provider, possibly on the same basis as currently enjoyed by Gresham.

Station 74, however, is owned by the City of Gresham. Gresham needs 74 to maintain full and timely service to its residents who live in the northwest portion of the city. Under a two-station, Three Cities option, Station 74 would likely not be available to the Three Cities. The Three Cities fire department or special district would thus need to construct a new fire station, or lease an existing building that could be repurposed to service the west and northern portions of its service area.

Under an alternative, "single-station" option, Station 75 would likely close because it is too small and is mis-located too far to the west to effectively service the majority of Three Cities residents. In this scenario, the Three Cities would need to construct a large, main station in a central location that could reach all parts of the service area with acceptable response times.

Three of the alternatives in the menu of options include full-time, all professional staffing, while several others rely on a mix of career staffing and volunteer service. Boring, Sandy, Hoodland, Canby, and McMinnville fire districts all use mixed professional-volunteer staffing. However, reliance on volunteers would require a substantial investment in volunteer recruitment, retention, training, outfitting, and reimbursement. Experts in this field also note that maintaining a volunteer force is becoming increasingly difficult as regulations tighten, and as competition for volunteers from other public service organizations increases. A decision to move to volunteers may also bring impacts on performance, and increased homeowner and business insurance rates.

II. Introduction and Methodology

Over the last ten years, Fairview, Troutdale and Wood Village (Three Cities) residents and businesses have received their fire and emergency medical services under an intergovernmental agreement (IGA) with the City of Gresham. The IGA is set to expire at the end of June 2015. The Three Cities leadership must shortly decide whether:

- To negotiate with Gresham and attempt to continue the current service arrangement,
- To negotiate refinements and reconfigurations to the current services, or
- To move to a different service delivery arrangement that ideally delivers the same or improved service at the same or lesser cost.

In any pathway, the Three Cities leadership must act before the IGA expiration date to ensure unbroken fire and emergency medical services. Making decisions on what levels of service to provide, and how to provide services will require due diligence by the Three Cities leadership. This includes building a full understanding of the facts of the situation, considering a full array of service delivery options, and understanding to the greatest extent possible the implications of decision choices.

To help the Three Cities better understand their service needs, current service package, and options for service delivery, the Cities engaged the Portland State University Center for Public Service (CPS) in a consulting agreement. This report explains and details the PSU team's findings, menu of options and technical recommendations. A series of separate power point presentations also summarizes the team's key findings and recommendations.

Developing an effective, cost efficient fire and EMS package for the Three Cities service area presents a challenging task. Fire and emergency medical (EM) services are really a bundle of services. A service delivery solution must provide the full array of initial response, prompt response, service response, and deep system capacity services. Three Cities leaders must ensure full coverage of their unified service area, with a high level of response time performance. Three Cities leaders must also ensure that their service delivery is reliable, meaning that the system has sufficient resilience to cover multiple, simultaneous calls. An effective system must also be able to contribute to mutual aid requests. Beyond the technical challenges, the Three Cities leadership must work under tight revenue constraints. The Three Cities must search for the lowest cost, but effective fire and EM services package possible.

A. Background: Fire and EMS Products

Most active Three Cities residents going to and from work, ferrying kids to school, or out shopping, will routinely pull over for a bright red fire truck, with the "Gresham Fire Department" logo on its side, rushing by with its lights flashing and siren blaring.

What most residents may not fully grasp, however, is that virtually none of the eventual destinations for these speeding fire trucks will involve even a whiff of smoke, much less an actual fire in progress. More likely than not, the passing fire truck will be speeding to a medical incident, that can range from a life-threatening heart attack or severe asthma attack, to a senior who's fallen and can't get up. On an average day in the Three Cities service area, the Gresham Fire and Emergency Services (FES) responds to seven calls, five

of which are medical emergencies. The remaining two calls are classified as “fire” calls, but which can include many different types of incidents: e.g. a vehicle accident; an alarm or smoke call; a hazardous material incident; a grass, barkdust or outdoor fire; and an actual structural fire.

From another perspective, of the many calls received annually by the 911 system from the Three Cities service area, about 74 percent are classed and dispatched as medical calls. Typically, a fire engine and an ambulance are simultaneously dispatched to this type of incident. The other 26 percent of the calls were classified as “fire” calls, though as noted above, this category contains a wide variety range of incidents, most not involving structural fires. Over the data time frame analyzed by this study (April 2011 to June 2013), an actual structural fire involving a residence, apartment building or multi-unit dwelling, or commercial structure happened about once every 25 days. Much more common were illegal burning fires, grass fires, bark dust fires, tree fires, chimney and appliance fires, vehicle and trailer fires, and dumpster and trashcan fires.

When combustion fires do occur, however, they need immediate response with sufficient resources to prevent the situation from growing into a catastrophic loss. In the case of structural fires, the fire engine must arrive as soon as possible to begin work to prevent a “flashover,” after which the whole structure burns catastrophically. However, other calls in the “fire” category – such as those characterized as “public service calls” and “support services calls” typically have less urgency.

The City of Portland Bureau of Emergency Communications (BoEC) provides the 911 services to Fairview, Troutdale, Wood Village and Gresham. Each of the cities purchase 911 dispatch services for their police departments, and for fire and EM services. Medical calls and dispatches by BoEC also break out into a series of classifications. “Priority I” calls are those demanding immediate attention, with the goal being response time no later than the 4-6 minute range in order to prevent patient death or degradation. These calls can cover a wide range of medical conditions, including cardiac, stroke, breathing difficulties, and bleeding cases. On these calls, immediate response can help to ensure patient survival, or with prompt transport to a medical facility can conserve heart muscle or brain function that can improve patient prognosis.

Less demanding, but still requiring prompt response, are Priority 3 calls. These calls may involve serious patient injury such as broken bones and trauma, but service response does not need the immediacy of the priority I call. Finally, Priority 9 calls are not immediate or life threatening. These are typically service calls, such as assisting elderly citizens, or assisting physically or mentally challenged citizens.

To better organize and describe the different types of calls and priorities, we developed the following Exhibit II-1.

Exhibit II-1

<p>1. Immediate Response Fire: initial attack/ response to prevent flashovers to large fire, prevent death and injury (4--6 mins. with 4 firefighters to enter a burning building or confined space.)</p>	<p>2. Immediate Response EM: cardiac, stroke, breathing emergencies (4-6 mins.) Advanced Life Support/paramedic certificate preferred (Priority 1).</p>
<p>3. Prompt Response Fire: Non-life threatening, service calls</p>	<p>4. Prompt Response EM: injury but not life threatening (Priorities 3, 9s)</p>
<p>5. High capacity/ high duration service situations: Major events/ situations requiring fire system "surge" capacity Extra firefighters (15-20) for an extended period—fully engulfed house fire, apartment complex fire, or a commercial building fire Expertise—complex Hazmat or rescue Specialized Equipment—ladder truck, boat Fixed cost best shared broadly</p>	
<p>6. Declared incident under emergency plan</p>	

Exhibit II-1 organizes fire and EMS into six product services. An effective fire and EM system needs to be able to dispatch units to arrive immediately to prevent flashover on many fire calls and potentially to save lives on Priority 1 medical calls. The table labels these as product 1 and 2 calls. Product 1 and 2 calls require fire units to arrive within response time standards to be effective. National standards set this "immediate" response time at 4 to 6 minutes. This requires a sufficient number of stations, spread across the community so that units can maneuver through traffic, weather and geographic distance to reach the incident location in the required time. On less immediate fire service calls and Priorities 3 and 9 medical calls, the units must work to meet a "prompt" response standard (products 3 and 4). Travel times here are important, but not as critical as for the Priority 1 calls. Well-placed stations help units arrive promptly for calls of lesser priority.

Product 6 is delivered under the jurisdiction's emergency management plan by the incident command. The emergency management plans for the Three Cities detail how resources will be used in a major emergency, and this report will not address that capacity or deployment.

Finally, product 5 services require that a fire and EM system have the capacity and reserves to respond to large events. These events happen much less often than the daily medical calls, but when they do occur, they draw heavily on the equipment, staff and expertise of the entire fire system (and often, beyond). These events typically include a residential house fire which occurs within the Three Cities about once a month, or an apartment building fire about once every five months, or a train derailment (very rarely). These incidents require multiple engines and fire units, and they may last for many hours. Other incidents require specialized equipment such as ladder trucks, hazardous material and heavy rescue units, and water rescue and boat units. Product 5 service incidents are relatively rare, so the reserve capacity of the fire system often waits as a "just-in-case" or an "insurance" service until it is needed during a major incident.

Implications: As Exhibit II-1 points out, any fire and EM services system must be capable of responding to calls and providing all six of the service products. Developing a service delivery alternative must ensure capacity for immediate and prompt response, and for

system depth and reserve capacity for major events. **A service delivery alternative must provide all six products. However, a service delivery alternative may give greater priority and strength to some products, at the marginal expense of another.**

The challenge comes in understanding and leveraging how the service products interact. Increasing one service product may reinforce or strengthen another, or degrade another. For example, a system with several two-person rapid response trucks or ambulances may be especially responsive and effective at Priority 1 medical calls. These same vehicles and teams are also effective on lower Priority 3 medical calls and fire service calls. But, small teams in light duty trucks aren't useful for sustained structural fires where a crew of 15 to 20 firefighters and commanders are engaged for four or more hours. Tying up many two-person crews on a major fire event degrades rapid EM service response capability. In addition to balancing service products, a service alternative must balance costs and investments in facilities and apparatus. Revenues, resources and costs are also critical parts of the service delivery balance.

Key Finding: Our review of the Gresham FES indicates that it remains designed and operated to respond to major fire incidents and structural fires. The uniform dispatch of a three-person engine to all incidents limits a nimble response to Priority 1 incidents in the Three Cities service area. Based on the large number of medical calls and relatively poor Priority 1 response times, the Gresham FES should consider reconfigurations to better respond to medical incidents in the Three Cities service area.

B. Background: Unique Characteristics of Fire and EMS

As public safety services, fire and emergency medical services (EMS) and police services are structured by several other characteristics and delivery requirements. We summarize four characteristics below.

Ambiguity: 911 operators receive calls for fire and EMS services. Operators must work clearly and quickly to gain information, to categorize calls by "call type" and priority, and to dispatch the most appropriate equipment and teams, all in the shortest possible time. However, on-scene assessment may confirm or revise the initial type categorization and dispatch. The initial responding unit may call for additional equipment, which results in another dispatch from the 911 operator.

Dynamic Nature: Fire and EMS calls for service, like police calls, are dynamic. The on-scene situation is changing and evolving: small fires get worse, or are put out; a patient's condition worsens or stabilizes. Arriving on-scene, firefighters must first assess the situation. Based on their assessment an attack plan can be developed and implemented, and additional resources may be summoned if needed.

System Reliability: System reliability is the capacity of a fire and EM services system to sustain service under the load of multiple simultaneous calls. An overlapping call occurs when the first call comes in and the nearest, usually local, available unit is dispatched to the incident. Then, before the first call is completed and that unit returns, a second call is taken. In many instances, this second call originates in an entirely different part of the system, and no conflict for resources occurs. However, when the second call originates in the same general area as the first call, or in a close neighboring area, a conflict for the nearest available unit develops. With the first unit still out on the first call, the nearest available unit must then be dispatched. When this "second choice" unit must travel farther, to this second instance, it usually results in a longer response time. Drawing this second unit from

its home territory then opens another potential gap in the system coverage. To accommodate the inevitable pressures of one or several overlapping calls, systems that aim for high reliability must look to a variety of potential strategies, among them having many stations on which to draw, or having many smaller units in a single station.

Systems must also be reliable on another level, which responds to service product 5 in Exhibit II-1. Systems must be able to provide sufficient capacity of equipment and personnel to major events, while at the same time having sufficient units to handle the next routine medical or fire call for service. Major events tax the resources of a system, and systems should have the surge capacity to handle major loads. With six dedicated stations and a sharing arrangement (with Portland FD) for the 7th, the Gresham system is large enough to have surge capacity depth.

Because the Gresham Fire and EMS system is a fairly large system with many users, it has a high level of call overlap at about 65 percent. The much smaller Three Cities service area, with fewer calls, has a 21 percent call overlap. Any service delivery alternative and its fire and EM services system design must respond to and be resilient to overlapping calls.

Mutual Aid: When all or part of a fire/EMS systems resources are overwhelmed, dispatchers and commanders often call on neighboring systems for aid and additional resources. This practice is called “mutual aid.” To receive mutual aid, the requesting system typically is facing a large-scale event that demands extra units or specialized equipment. In other instances, overlapping calls may have stretched the requesting system thin, and a neighboring jurisdiction has a free unit nearby that can quickly take the next call.

While mutual aid seems an informal exchange, it is actually a formal arrangement with a defined set of rules and practices. In Oregon, mutual aid agreements are convened under OAR 190, the same regulations that govern all intergovernmental agreements. Mutual aid agreements are established at the county level, and they define how and under what conditions fire districts and fire systems will contribute mutual aid to others, and receive aid in return. As in many other counties, the Multnomah County mutual aid agreements are “reciprocal.” The costs of mutual aid service are tallied, but no charges are placed to the receiving jurisdiction. Instead, the receiving jurisdiction is expected in the future to contribute a similar level of equipment, units and service back into the common system. In the face of mutual aid requests, districts and departments may refuse a request if it would unreasonably reduce protection in the home jurisdiction. Appendix C contains a copy of the Multnomah County mutual aid agreement. Gresham FES is a signatory to this agreement, and any Three Cities FES department or district would likely seek to join the agreement.

Implications: Mutual aid vastly increases the responsiveness and depth of the overall fire and EMS system. Mutual aid improves both timely response and overlapping call reliability, and system surge capacity. However, **mutual aid arrangements are not a substitute for investments** in apparatus and personnel. Each district is expected to fully cover its own needs, and when at all possible contribute to the larger emergency services system.

C. Challenges Before the Three Cities Decision Makers

The pending expiration of the 10-year IGA with the City of Gresham provides an opportunity for the Three Cities to revisit their strategy and operations for fire and EMS. Our analysis and review indicates that this will be a challenging issue for Three Cities elected leaders and administrators. A number of demographic, geographic and financial factors structure and limit the policy and strategic choices that the Three Cities can make. While there are

several viable options forward on this issue, constraints will structure and limit any forward path.

Complex Service Delivery Network: An important characteristic of fire and EM services in east Multnomah County is the highly fragmented responsibility for service quality and delivery. Fire and EM services are delivered to the Three Cities by a network of related providers. No one provider has full control of all aspects of the network. The Gresham FES provides fire suppression, fire preventions, and EM first response services, but the City of Portland Bureau of Emergency Communication (BoEC) provides the 911 call center and dispatch services. BoEC's policies, protocols and technology define many of the practices that control fire and EM services delivered by Gresham FES to the Three Cities. The Multnomah County Emergency Medical Services program (Multnomah County 2014) is the control authority for emergency medical services in the county. The county sets the performance protocols for all medical first responders and ambulance personnel practicing in the county. A county contract provides ambulance transportation services throughout most of Multnomah County, and the Emergency Medical Services program provides oversight of ambulance contract. **The implication of this complex situation is that many medical and fire response practices and protocols that appear to be choices made by Gresham FES, are actually under direction and control of BoEC or Multnomah County.** Should the Three Cities and Gresham FES wish to modify practices and standards to gain efficiencies and greater effectiveness, they will often need to work with actors beyond those in a service contract or IGA.

Weak Relationships: While Gresham FES and the Three Cities have established a joint users board that meets on a routine basis, the authors noted a lack of relationships and communication between the Gresham FES leadership and Three Cities administrators and elected officials. For example, representatives from the Gresham FES do not regularly appear before each of the three city councils to present an annual budget, to request funding, and to report progress on program goals and performance on budget objectives.

While relationships on the governance level may be inconsistent, the authors wish to stress that we found strong, professional relationships between the Fairview and Troutdale police departments and the Gresham FES on the operational level and in the field.

Small Service Population: The population of the combined Three Cities service area at 28,800 is relatively small; if it were to operate an independent fire and EMS system, it would have relatively few residents over which to spread the fixed costs of capital investments in facilities, vehicles and apparatus. The small population also results in a relatively low number of daily calls for service. Obtaining effective, full usage and full value of investments in vehicles, equipment and personnel would be challenging for an independent fire department or district.

Broad Service Area with Difficult Geography and Road Access: The Three Cities also face challenges of geography. Should the Three Cities establish an independent fire and EMS system, it will need stations strategically placed to cover the full service area. This means meeting response time goals for a wide amount of territory, ranging from the southeast Troutdale neighborhoods overlooking the Sandy River, to the east side of the Sandy River for water rescues, to north Fairview at Blue Lake Park and Chinook Landing. For best response times, a system would likely need two strategically placed stations. These could be configured as two full stations, or as a main station and a satellite sub-station.

Financial Limitations: Financial limitations will also present challenges for decision makers. We delve into the financial details in chapter V. Measures 5 and 47/50 restrictions on property tax revenues limit the ability of the Three Cities to raise additional revenues to respond to new demands or to new service delivery arrangements. There may be some opportunities to work with and around these limits, but they strongly affect the financial aspects of alternative service arrangements.

Of course, there is never enough money to provide all services at maximum quality. Limited resources condition any attempt to define the relative balance between the five fire and EMS products. Any allocation of resources must be tempered with the risk of underfunding a particular level of response, or of maintaining extra staff and resources that largely remain underutilized.

The preceding paragraphs have presented general background concepts of fire and EM services and service delivery systems. The challenge for the Three Cities decision makers is to understand their communities needs and service demand, identify the programs and service levels needed to meet those demands, and then to identify the funding and resources needed to pay for the services. The remainder of this report provides much of the information needed to respond to these challenges. We next turn to a brief review of the services that Three Cities residents currently receive from the Gresham FES.

III. Gresham FES Overview

What Services Do We Get Now Under the Current IGA?

As we described in the previous section, the IGA between the Three Cities and Gresham includes a payment schedule for the 10-year agreement period. For the most recently completed fiscal year of 2012-13, the Three Cities paid a total of \$2,705,084 broken out as follows:

Exhibit III-1

	2012-2013	Cost per Resident	# Runs in 2012
Fairview	\$ 774,485	\$86.83	865
Troutdale	\$1,561,441	\$97.56	1,208
Wood Village	\$ 369,158	\$94.90	467
Three Cities Total	\$2,705,084	\$93.88	2,540
Gresham	\$13,543,486	\$127.80	9,845
RFD10	\$991,749	\$145.91	444
Mutual Aid Runs			1,043
System Total/ Averages	\$17,240,833	\$121.77	13,872

The Gresham FES currently serves over 141,500 residents and businesses with a total budget of \$17.24 million in FY 2013-2013. The system serves the incorporated cities of Gresham, Fairview, Troutdale and Wood Village, and the unincorporated areas southeast of Gresham administered by RFD10 (Orient and Powell Valley area). As Exhibit V-2 details, the Gresham FES average cost per resident is just under \$122. By jurisdiction, the cost per resident rate varies ranging from a low of about \$87 per resident in Fairview, to a high of about \$146 in RFD10.

Quality Measures

In urban and suburban areas, the Gresham FES system has a 3 rating from the Insurance Services Office Fire Suppression Rating Schedule (ISO Mitigation 2013). ISO ratings range from a highest quality of 1 to poorest of 10. ISO ratings are controversial among the fire service professional community, but they do provide one comprehensive measure of fire department and water system infrastructure, equipment, and performance quality. An ISO 3 rating is common for urban and suburban departments or districts.

In comparison, the City of Portland and Tualatin Valley Fire & Rescue hold an ISO 2 rating in urban areas, making them two of the best-rated systems in Oregon. Rural locations without hydrants and piped water supplies even in the best districts often have ratings of 8 or 9. Departments that rely on volunteers often have ISO ratings in the 5, 6 or higher range (e.g. Boring Fire District). As another quality measure, other departments become certified or accredited. The Clackamas Fire District #1 and the Tualatin Valley Fire & Rescue district are accredited by the Commission on Fire Accreditation International (CFAI). Gresham FES has not been accredited by CFAI.

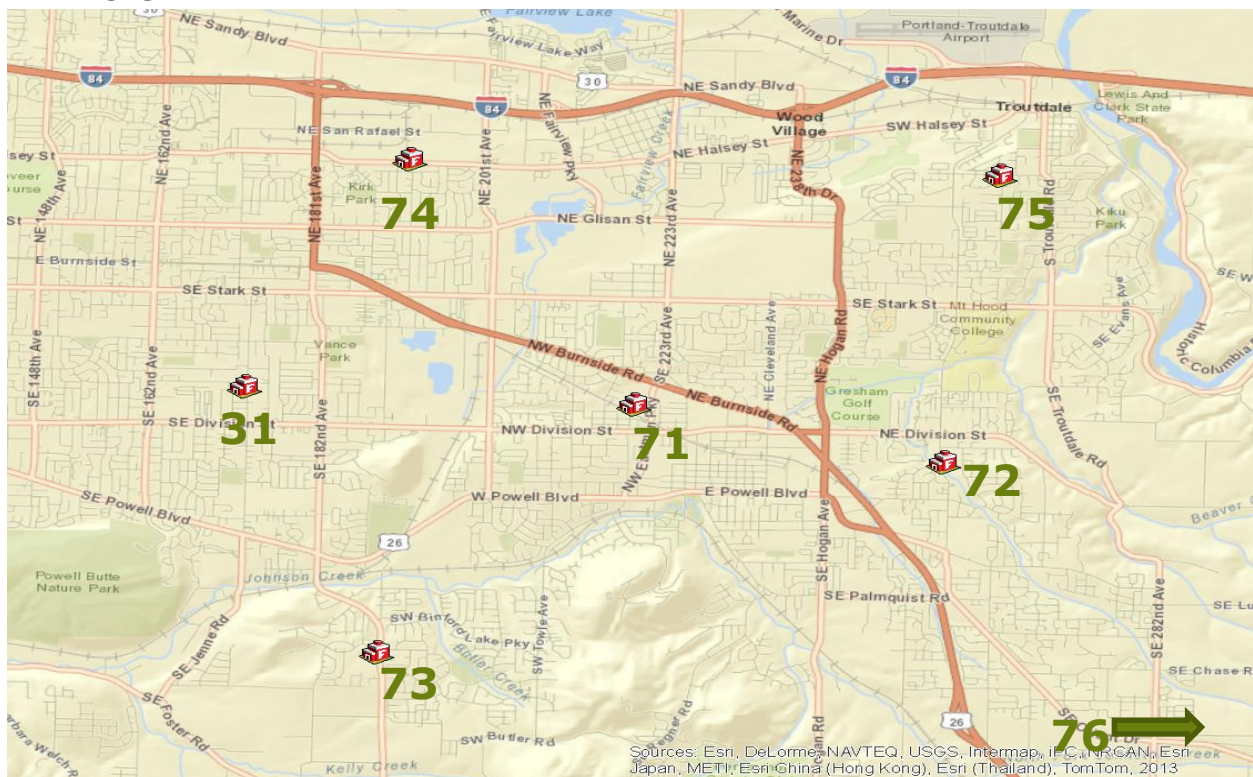
Station Locations, Staffing and Schedules

The current IGA between Gresham and the Three Cities provides for fire suppression, emergency medical services, and fire prevention and inspection programs. The Gresham system operates six fully-owned stations (71, 72, 73, 74, 75, and 76), and a jointly

operated and cost-shared station with the City of Portland (31) (Exhibit III-2). The Gresham-operated stations use a 3-person crew for all emergency medical, initial attack fire, and service calls. To meet Portland standards, Station 31 operates a 4-person crew. While all seven stations serve as general-purpose stations, several stations are staffed with specialized equipment and with staff that is trained and certified for special response tasks, as follows:

- Station 31: jointly operated with Portland as a 4-person crew
- Station 71: engine, ladder truck and heavy rescue
- Station 72: engine, hazardous materials truck (state funded)
- Station 73: engine, breathing apparatus support
- Station 74: engine—general purpose station
- Station 75: engine, water/river rescue/boat
- Station 76: engine, wildland brush truck.

Exhibit III-2



In FY 2012-2013, the Gresham FES employed 98 FTEs, of whom 89.5 are firefighters. Command staff and administrative support account for the additional FTEs. About 60 percent of the firefighters are certified paramedics.

To ensure 24/7 continuous coverage without overtime, Gresham FES configures all firefighter shifts on a 24-hour basis. Under this schedule, a shift works 24 hours on, then

48 hours off, with a scheduled extra day off every 18th shift (a “Kelly day”). The Kelly schedule allows for a 56-hour work week without overtime. Gresham firefighters on the Kelly schedule work a total of 2,758 service hours per year before vacation time and any overtime. The Kelly schedule is widely used in the firefighting profession and is recognized by the Oregon Bureau of Labor and Industry (BOLI). In comparison, a standard 40-hour office work week provides 2,080 service hours per year.

First Responders for Medical Emergencies

In Multnomah County, city fire departments and fire districts are explicitly tasked under county policy as the “first responders” for medical emergencies. Fire crews are expected to arrive first on the scene of an incident. All Gresham firefighters are certified as Oregon Emergency Medical Technician Basic (EMT or EMT-B) medical providers, and as noted earlier, 60 percent of Gresham firefighters are certified as more highly trained, EMT-P paramedics. The department tries to have a paramedic stationed at each station at all times.

The Multnomah County Health department’s Emergency Medical Services program acts as the controlling authority for emergency medicine response, ambulance transportation, medical protocols, and ambulance quality management. Multnomah County contracts with the American Medical Response corporation (AMR) for transportation and medical care services. AMR is a private for-profit company that bills patients for its services. AMR provides medical and transport services for all emergency medical patients in the Gresham FES service area (Multnomah County 2014).

The financial benefit to AMR of this contract is the sole-source ability to provide transport services to hospitals or other medical facilities, should conditions warrant. AMR can then receive reimbursement through various insurance systems, both private and public, including Medicare and Medicaid. Three Cities taxpayers do not pay for ambulance services through their taxes or government fees.

Service Demand

In calendar year 2012, the Gresham FES system responded to approximately 13,800. About 1,000 of these were for “mutual aid” to departments outside the Gresham service area. Gresham, Fairview, Troutdale, and Wood Village experience significantly different intensities of call volumes, reflecting such things as community demographics, commercial areas and the location of certain “hot spots” such as large assisted care facilities. In terms of calls per 1,000 residents, the highest rate among the four cities is found in Wood Village – at 120.1 – and the lowest is Troutdale at 75.5 per 1,000 residents. RFD10 has the lightest usage on the system, with a rate of just 65.3 calls per 1,000. Exhibit III-3 below gives a graphic representation of call volume intensity by color. On this map, the areas of red color indicate the most intense call usage. Yellow areas indicate moderately intense call demand, and green areas the least intense.

Exhibit III-3 demonstrates accumulated numbers of calls categorized and smoothed into bands of similar intensity. However, each red or yellow area is really a set of incident addresses. Many of these addresses are familiar: large stores, high schools, hospitals, care facilities, commercial locations, I-84 interchanges, or mobile home residential facilities. These intense areas are known as “hotspots.” Exhibit III-4 on the following page below, lists the five most intense hotspots for each of the Three Cities. We list only the addresses contained in the public dispatch records.

Exhibit III-3

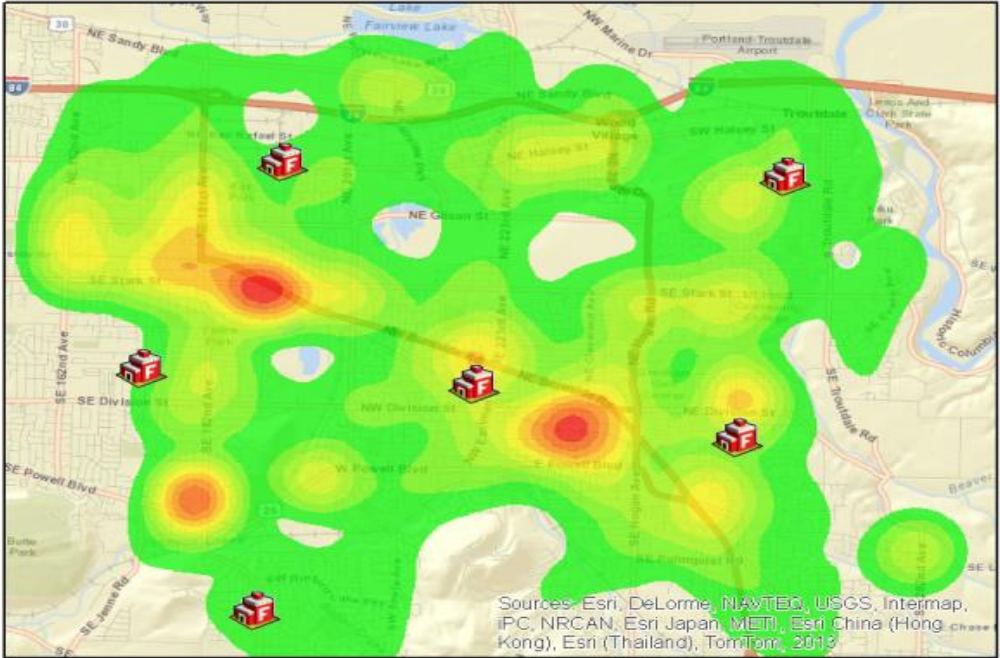


Exhibit III-4

City	Location	F	M	Fire&Med
Fairview	21100 NE SANDY BLVD	24	116	140
	3201 NE 223RD AVE	15	68	83
	305 7TH ST	19	60	79
	20660 NE SANDVIEW DR	1	78	79
	21401 NE SANDY BLVD	8	41	49
Troutdale	1323 SW CHERRY PARK RD	81	130	211
	1201 SW CHERRY PARK RD	13	135	148
	1610 NW FRONTAGE RD	5	66	71
	790 NW FRONTAGE RD	11	57	68
	2126 SW HALSEY ST	16	43	59
Wood Village	23500 NE HALSEY ST	5	163	168
	2060 NE 238TH DR	8	116	124
	23500 NE SANDY BLVD	20	61	81
	1440 NE 223RD AVE	30	49	79
	23300 NE ARATA RD	9	45	54

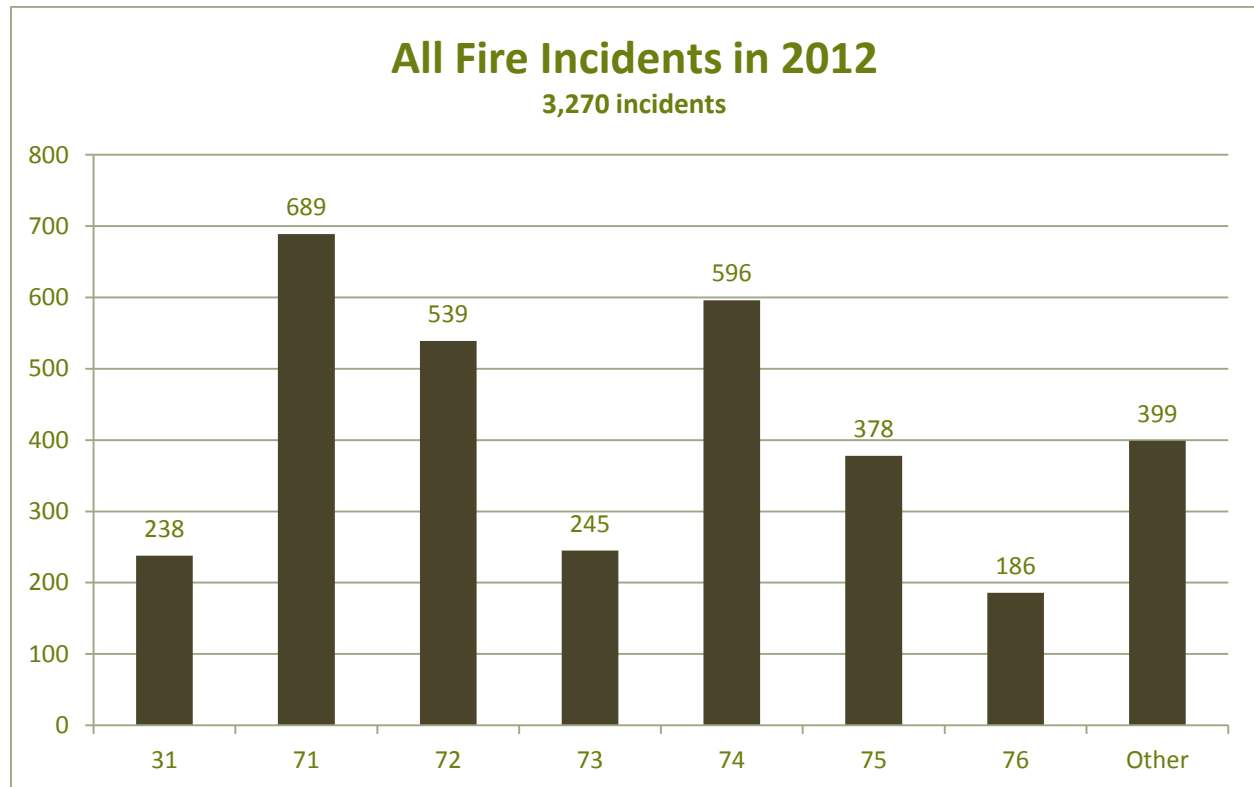
Service Response and Station Service Load

Each fire station in the Gresham system is assigned a call management area in which it is the primary responder. Should a second call come in while the primary responder is on call or otherwise unavailable, a second unit will be dispatched to cover the call. Because the

second responding unit is usually located further from the call incident, travel times are increased.

Exhibit III-5 shows the relative load the stations in the Gresham system carried in 2012. Stations averaged 410 apiece that year, with a low of Station 76 with 186 calls, and a high of Station 71 with 689 calls. The variation in the number of calls taken by each station reflects the relative isolation of the station in the system (stations 76, 73, and even 75), or its the proximity to intense use hotspot areas (stations 71, 72 and 74). Station 31 responded to 238 calls in Gresham, but also responded to about 1,600 incidents in Portland (City of Portland 2010). **It is important to remember that stations are spread geographically across the system to ensure compliance with response time standards (service products 1 and 2 in chapter II above). Low volume stations may be located to meet response time standards, even if the station is underutilizing its resources.** Note that Exhibit III-5 also includes 399 calls in the “Other” category, which includes the dispatch of command cars, AMR ambulances and external mutual aid units coming from outside the system.

Exhibit III-5



Stations 75 and 74 are the two stations with service responsibility for the Three Cities area. Exhibit III-5 shows that station 75, which mostly serves Troutdale and Wood Village, responds to slightly less than the station average number of calls at 378 calls. **Station 74, which serves Fairview and Wood Village, is the second most heavily responding station.**

Exhibit III-6, which relies on the full dataset covering April 2011 to June 2013, demonstrates that 30 percent of Station 74 calls go to the Three Cities. Sixty-seven (67) percent of Station 74 calls go to Gresham, with a small remainder to Multnomah County and to other jurisdictions. Proportioned back to an annual scale of Station 74's nearly 600 fire calls in 2012, only about 180 calls went to the Three Cities.

Exhibits III-6 and III-7 demonstrate how service response to the Three Cities currently is separated between Stations 74 and 75. While there is a very small bit of overlap, especially in the Wood Village area, the two stations operate relatively independently. Seventy (70) percent of the Station 75 calls go to Troutdale, while another 19 percent go to Wood Village. Only 1 percent goes to Fairview. The 9 percent of calls to Gresham often service the areas around and south of Mt. Hood Community College, where Gresham and Troutdale abut. The separation of calls between Stations 74 and 75 point out the travel time limits within the Three Cities service area. Station 75 effectively serves the Troutdale area, but must travel a long distance to service areas of west and northwest Fairview. The two stations demonstrate why the Three Cities service area needs more than one station for effective coverage and response time compliance.

Exhibit III-6: Station 74 Call for Service Destination Jurisdictions

April 2011 to June 2013

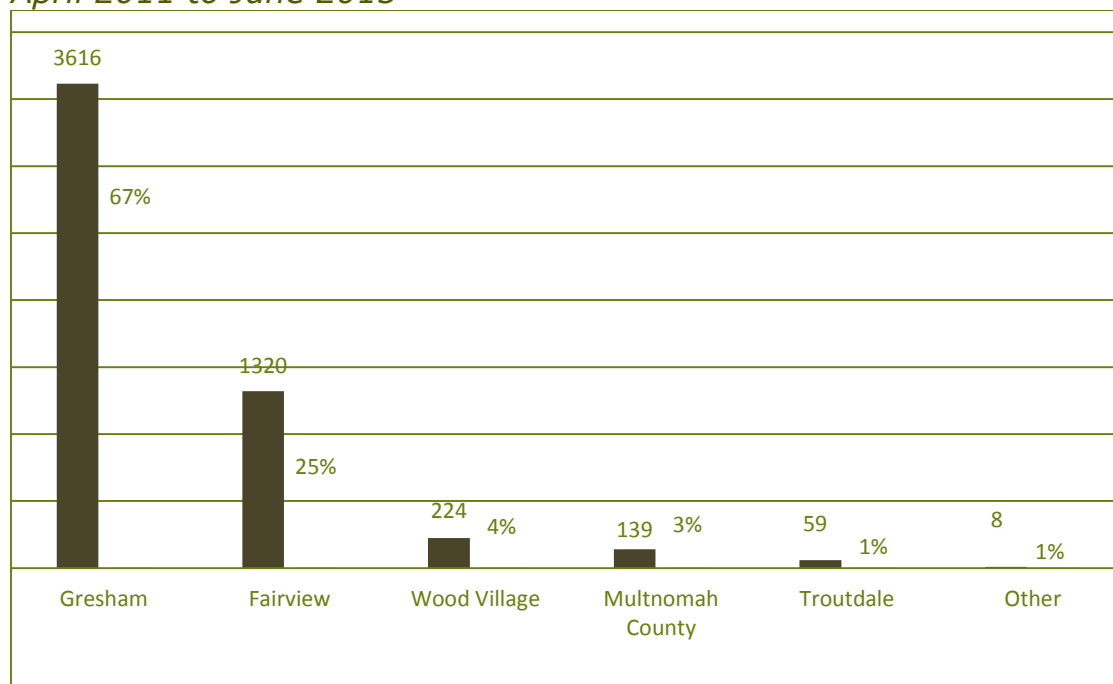
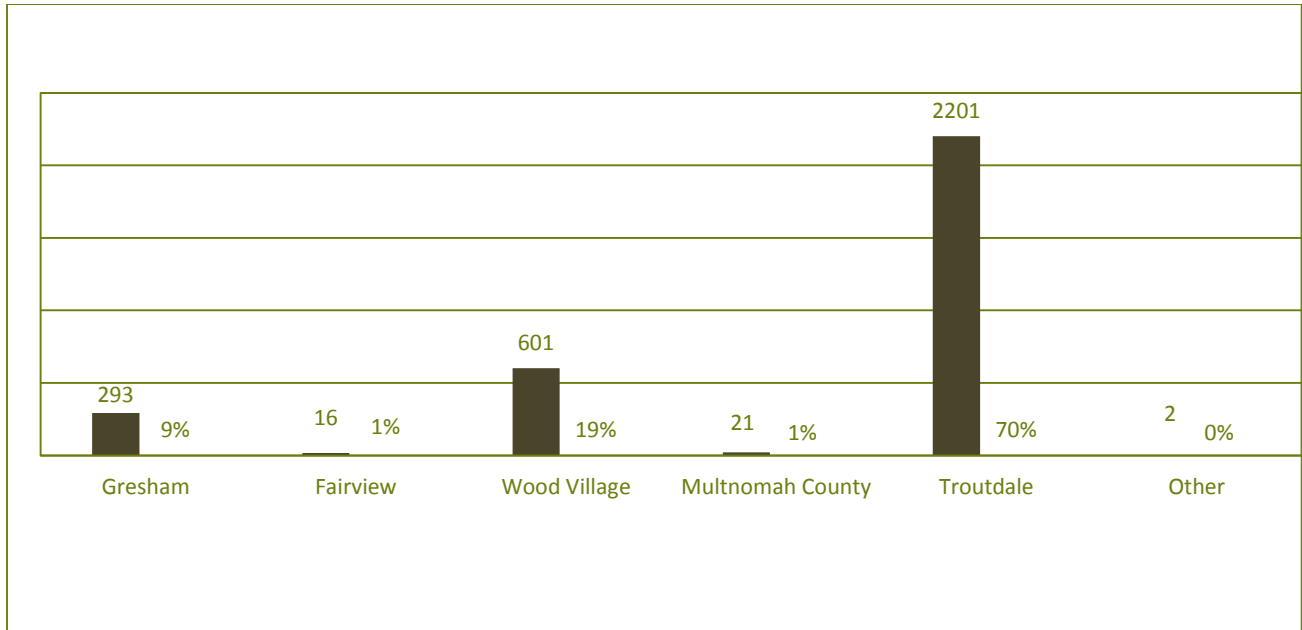


Exhibit III-7: Station 75 Call for Service Destination Jurisdictions

April 2011 to June 2013



Gresham System Configuration and Costs

Like every basic public service, there are trade-offs between cost and service levels. In theory, Gresham could choose to operate twice as many stations, and staff each station with at least two vehicles and more employees, in order to provide greater coverage, and thus presumably reduce response times. Such an alternative would also cost significantly more money. Conversely, Gresham could significantly reduce its annual budget, through such means as eliminating fire stations or reducing its service levels. This would presumably increase response times – though it would also likely put Gresham FES out of compliance with certain industry standards, potentially leading to higher insurance premiums for its businesses and residents.

Gresham has made a significant cost-reduction decision when it decided to move from 4-person to 3-person fire truck crews. Using the smaller crew has operational ramifications, but it has made Gresham an efficient, low-cost producer of fire and EM services. Exhibit III-8 compares the unit cost performance to several other peer fire systems. Gresham FES performs well on a cost per resident, per \$1,000 assessed value, and cost per run bases.

Exhibit III-8: Peer Fire Systems Cost Comparison Measures

City or District	Operating Expenditure \$ 2012-2013 Adopted Budget	Population	Cost \$ per Resident	Taxable Assessed Value FY2012	Cost per \$1,000 AV	Number of Annual Runs	Cost per Run	Runs per 1,000 Population
GFES	\$17,240,319	141,582	\$121.77	\$9,222,924,810	\$1.87	13,872	\$1,243	98
Salem	\$25,544,450	156,455	\$163.27	\$9,156,859,529	\$2.79	17,236	\$1,482	110
Hillsboro	\$18,339,773	92,550	\$198.16	\$9,094,410,587	\$2.02	7,735	\$2,371	84
Medford	\$12,730,460	86,223	\$147.65	\$6,575,168,784	\$1.94	9,058	\$1,405	105
TVF&R	\$77,207,690	440,000	\$175.47	\$43,492,389,466	\$1.78	32,826	\$2,352	75
Assessed values from Multnomah County Assessor 2012-2013 for Three Cities, RFD10, Gresham, TVF&R.								
Assessed values from Clackamas County Assessor for 2012-2013.								

Key Finding: The Gresham FES is a low cost producer of fire and EM services, but the shift to a three-person engine can create gaps in coverage and system reliability issues.

While very cost efficient, Gresham’s move to a three-person crew has operational ramifications. The City of Portland and most other fire districts use 4-member crews, in response to National Fire Protection Association (NFPA) standards. These standards require for safety reasons at least four firefighters be on the scene to enter a burning building to rescue persons or pets, or to fight a structural fire. To meet this standard, Gresham dispatches two, three-person units to structural fire calls. While the second unit is dispatched simultaneously with the primary first unit, it typically must travel a longer distance, resulting in a slower response time. Dispatching a second unit creates a coverage gap in the larger system, which affects overall system reliability. While Gresham FES has proven itself adept in moving units to cover these gaps, such “double dispatches” can create coverage and system reliability concerns.

Fire Marshal and Fire Safety Inspections

In addition to emergency response, the Gresham Fire Department’s budget includes a fire marshal and a program of prevention services. In compliance with state regulations, its Life Safety Division includes inspections of existing and new buildings and events, investigations of major fires and incidents, at-risk youth response, and general fire prevention communications. In FY 2012-2013, the Life Safety Division was funded at \$437,811. Accomplishment and productivity statistics for the Life Safety Division were difficult to obtain.

The CPS research team was able to obtain a tally of fire prevention inspections conducted by the Gresham Fire Marshal in calendar 2012 and through September of 2013. From these data, we computed the following basic metrics of the program in the Three Cities (Exhibit III-9 on the following page). Troutdale, with a large population and large property assessed value, falls near the average number of inspections. Fairview receives a relatively light level of inspections. Wood Village receives a heavy level of inspections. Wood Village receives a

relatively high number of inspections in the Mercantile/ Business; and in the Health Care, Detention and Corrections category, which includes 24-hour care facilities and residential nursing facilities. Wood Village also receives a relatively high number of inspections in the Residential category, which includes mobile home and RV parks, hotels and motels, and residential board and care facilities.

Exhibit III-9

Jurisdiction	Average Inspections per Year	Average Annual Inspections per \$100 million in 2012 property Assessed Value	Jurisdiction Population in 2012	Average Annual Inspections per 1,000 Residents
Fairview	47	7.82	8,920	5.26
Troutdale	141	12.67	16,005	8.83
Wood Village	73	29.59	3,890	18.68
Three Cities Combined Total	261	13.31	28,815	9.05

IV. Three Cities Service Risk Profile and Current Service Response

What are the Three Cities' service needs?

As a combined unit, the Three Cities service area drew about 18 percent of all calls in the Gresham FES system in 2012. The Three Cities contain about 20 percent of the population served by the Gresham FES. Based on their professional experiences and analysis, the Gresham FES leadership views the Three Cities service area as very similar to other parts of the system (personal communication Lewis Oct. 3, 2013). From a call type and operational viewpoint, the Three Cities are not especially unique in the larger Gresham service area.

This view may not be an incorrect assessment of risk and operational need. However, these judgments rest on the perceptions, judgment and professional biases of the Gresham FES leadership. Such judgments may result in excessive attention to one type of incident risk or threat, while giving inadequate attention to others. An objective, community-level risk analysis provides a means to catalogue and evaluate the risks and service needs of a community.

Gresham FES has no detailed risk analysis or published standards of coverage plan for its service area. Large accredited fire districts prepare this important analysis, and the Oregon State Fire Marshal encourages districts and departments to complete such an analysis (Oregon State Fire Marshal, 2013; e.g. TVF&R 2008; Clackamas #1 2010). The detailed information provided in such a standards of coverage analysis defines the fire and emergency risks faced by a community, and it forms the basis for determining the service response by its fire and EMS services. The standards of coverage identify and organize the vehicles, equipment, personnel, training, teams, and system structures needed to best respond to the communities' risk profile. The standards of coverage analysis and document also serves to structure the policy debates and decisions faced by a community over the risks they face, the services they need, and the revenues they are willing to commit.

To understand fully the fire and emergency medical risks and needs of the Three Cities' residents and businesses, we developed many aspects of a community risk and service demand profile that would contribute to a standards of coverage document. A detailed analysis reveals the unique characteristics of the Three Cities' service area. With its risk profile and service demands identified, Three Cities decision makers can then weigh service levels, costs, revenue options, and whether to continue with Gresham FES for an additional contract, or whether to consider other alternatives as detailed in the next section of this report.

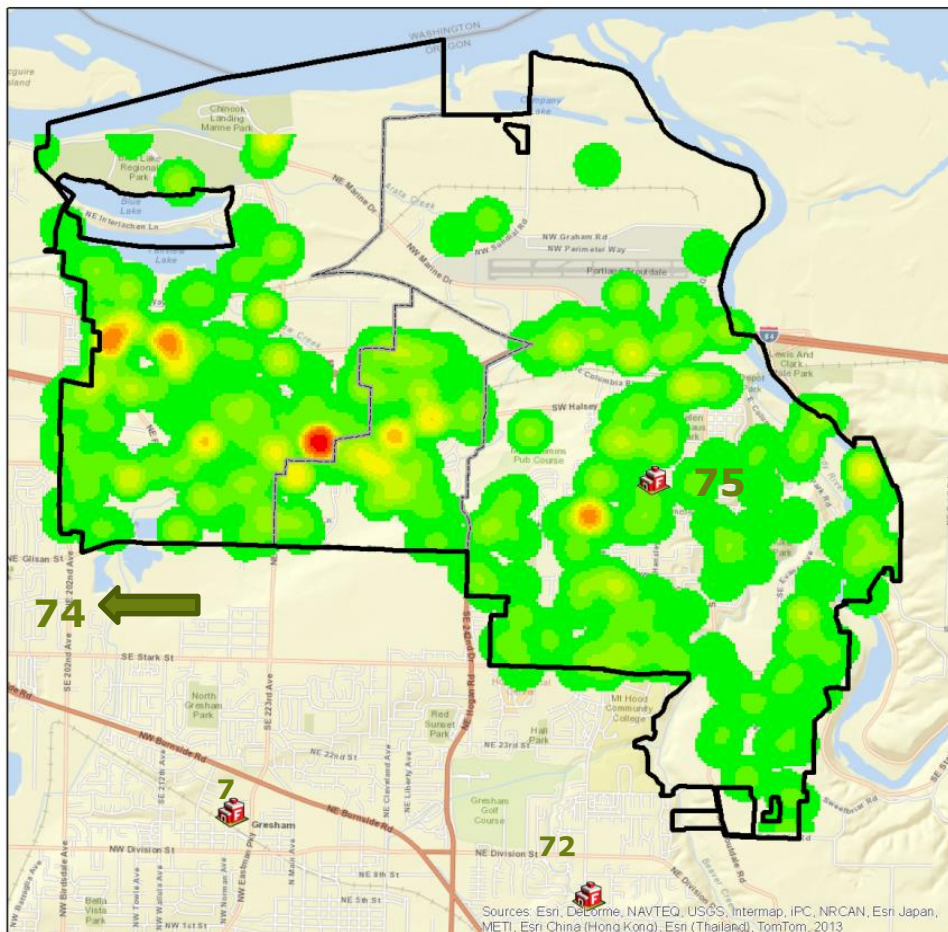
To develop the community risk and service demand profile below, we begin by identifying and defining the Three Cities service area. Many elected officials and the public may not fully recognize the breadth of the full Three Cities area. We then explain the types of emergency fire and medical risks faced by the community. This includes when these risks occur over the days of the week, and when they occur by time of day. We also demonstrate where emergency incidents occur within the service area. We then turn to describe the current service response provided to the Three Cities. Examining the current response performance provides a baseline against which improved performance and alternative service arrangements may be judged.

Three Cities Service Area

Combined together, Fairview, Troutdale and Wood Village define the boundaries of the Three Cities service area. The combined population of the service area is about 28,800. Combining the territories of the three independent cities together causes decision makers and the public to rethink their jurisdiction. Exhibit IV-1 (next page) maps out the service area. The green splotches indicate a call for service incident within the data set time period of April 2011 to June 2013. Yellow and red splotches indicate multiple calls for service at the same address—a hotspot of service demand. The dark black lines define the boundary of the service area. The rectangular-shaped black blocks around Blue Lake Park and in southwest Troutdale indicate unincorporated areas within the service area. Gresham FES system serves these areas even though they are formally outside the city boundaries.

Another way to understand the size and breadth of the Three Cities service area is to use common landmarks. In the southeast corner, the area contains Troutdale neighborhoods above the Sandy River and east of Mt. Hood Community College. Reynolds Middle School and the Salish Ponds in west Fairview define the southwestern corner of the service area. Blue Lake Park and Chinook Landing on the Columbia define the northwest corner. The chip loading facility on the Columbia, the Troutdale airport and the Sandy River delta define the northeast corner of the area. And, on its eastern side, the service area actually crosses the Sandy River and includes a Troutdale neighborhood on the eastern side of the River.

Exhibit IV-1



Three Cities Service Area Risk Profile and Daily Service Demand

The historic call of service data from BoEC dispatches provides a master list of fire and emergency medical (EM) incidents in the Three Cities service area. Our call for service dataset obtained from BoEC spans April 17, 2011 through June 30, 2013. This is a total of 806 days, or 2.2 years. Over that period, there were 5,409 calls for service. Exhibit IV-2 breaks out the total of calls into specific types of calls. Dividing the number of calls in each type by the total number of days (806) gives a per day rate of demand. This represents a risk measure of occurrence for that type of call.

Exhibit IV-2

Incident Category	Count	Percent Share	Calls/Day
Total Calls for Service	5,409	100%	6.71
Fire Responses	1,430	26%	1.77
EMS (First Responder)	3,979	74%	4.94
Fire Service Calls	Count	Percent Share	Calls/Day
Alarm	355	25%	0.44
Structure and other fire responses including residential, commercial, mobile home, dumpster fires, other fires	330	23%	0.41
Other (Assault, Investigation, Rescue, Suicide, Trauma, Priority 9 Medical, and Unknown)	214	15%	0.27
Service	192	13%	0.24
Traffic	115	8%	0.14
Hazmat	65	5%	0.08
Info only	46	3%	0.06
Water	42	3%	0.05
Vehicle	36	3%	0.04
Mutual Aid/Police	23	2%	0.03
Hazard	12	1%	0.01
Fire Service Calls Total	1,430	100%	1.77
EMS Breakout	Count	Percent Share	Calls/Day
EMS Priority Level 1	1,397	35%	1.73
EMS Priority Level 3	2,582	65%	3.20
Total EMS	3,979	100%	4.94

Exhibit IV-2 details very important information for decision makers. The top line of the table indicates 6.71 daily calls for service, with 1.77 fire responses, and 4.94 EMS responses. This rounds to about 7 total calls per day: 2 fire calls and 5 EM service calls. The bottom

lines of the table are also important. EM service Priority Level 1 calls -- those demanding the most immediate response -- total 35 percent of all calls, and occur about twice a day (1.73 calls per day). The still important, but less immediate EMS Priority Level 3 calls occur about 3 times a day (3.20).

The table also breaks out the many types of "Fire" calls by major type. For example, 0.44 of an Alarm call occurs each day. At a uniform rate of addition, an alarm call would occur about once every two and one-quarter days ($0.44 + 0.44 = 0.88$ day). Importantly, while the table gives daily rates of incidents, the actual flow of incidents is not smooth. Several calls of a particular incident type may clump together, to be followed by a long gap without a particular type of call, or calls may meter out relatively smoothly. On average over the weeks, the rates listed in the table give an average number of occurrences per day.

We also break out the types of calls in the structure fire and other fire category. This category totals about 0.41 calls per day. Exhibit IV-3 displays the refined breakout.

Exhibit IV-3

Fire	Count	Percent Share	Calls/Day
AFIRE - APARTMENT OR MULTI DWELLING STRUCTURE FIRE	1.00	0%	0.0012
AFIRE *H	4.00	1%	0.0050
APPLI - APPLIANCE OR EQUIPMENT FIRE	19.00	6%	0.0236
BUS	1.00	0%	0.0012
CFIRE - COMMERCIAL STRUCTURE FIRE	5.00	2%	0.0062
CHIM - CHIMNEY, FIREPLACE OR WOODSTOVE FIRE	6.00	2%	0.0074
COLD - COLD FIRE	15.00	5%	0.0186
DUMP - DUMPSTER, GARBAGE CAN OR TRASH FIRE	3.00	1%	0.0037
ELEC - ELECTRICAL PROBLEM IN A STRUCTURE	12.00	4%	0.0149
ELEV - ELEVATOR RESCUE	4.00	1%	0.0050
GRASS - GRASS, BARKDUST OR TREE FIRE	58.00	18%	0.0720
ILBURN - ILLEGAL BURNING	65.00	20%	0.0806
MISCF - UNKNOWN TYPE OF FIRE PROBLEM	21.00	6%	0.0261
ODOR - SMELL ONLY WITH NO SMOKE VISIBLE	15.00	5%	0.0186
RAIL - RAILROAD DERAILMENT OR FIRE *H	1.00	0%	0.0012
RFIRE - RESIDENTIAL STRUCTURE FIRE	15.00	5%	0.0186
RFIRE *H	7.00	2%	0.0087

SMOKEA - SMOKE INVESTIGATION OUTSIDE A STRUCTURE	48.00	15%	0.0596
SMOKES - SMOKE INVESTIGATION INSIDE A STRUCTURE	17.00	5%	0.0211
	330.00	100%	0.4094

Exhibit IV-3 demonstrates that actual building fires are very rare occurrences. For example, an apartment building or multi-family dwelling fire on average occurs once every 161 days—about once every 5 to 5.5 months. Commercial structure fires occur at about the same rate. Residential structure fires occur about once every 36 days—about once a month. Much more common are illegal burning fires (20%); bark dust, tree, grass and brush fires (18%), and smoke investigations (15 + 5 = 20%) of all fire calls. Appliance (clothes dryers) and machinery fires are fairly common (6% of all fire calls) occurring about once every 42 days or 1.5 months. Note that the total number of fire calls, 330 is the same total listed above in Exhibit IV-2.

Exhibits IV-2 and IV-3 demonstrate the risk profile faced by the Three Cities community and its leaders. The challenge for decision makers is to develop programs to provide a service response to these risks. The tables demonstrate that **EM service calls are far more prevalent than fire service calls and alarm calls. Our analysis indicates that EM service calls on average consume 61 minutes of response time, while fire service calls average 28 minutes of service time.** With an average of five EM calls daily at an hour each, fire and EMS crews are spending the bulk of their service attention on medical calls. Note, too, that these are average times per call. EM service calls may be very quick, and major event fire calls may consume four or more hours of crew time. While the average level and flow of calls is important, we also need to understand when and where these risk incidents occur. We turn to these issues next.

When and Where do Incidents Occur?

Analysis of data from the Three Cities from April 2011 to June 2013, show a mild weekly pattern of daily intensity. Exhibit IV-4 displays the Three Cities weekly pattern; Exhibit IV-5 displays the weekly pattern for the full Gresham system. For the Three Cities, Thursday is very near to the average day of 773 calls. Differences from the average range from a high of 102 percent on Monday, to a low of 97.8 percent on Wednesday. Friday and Saturdays are also higher intensity days. If there is a two-day quieter period, it is on Tuesdays and Wednesdays. The Three Cities pattern deviates from the weekly pattern for the full Gresham system (Exhibit IV-5). For the full system, Monday is a less intense day, and Tuesdays are a little more intense, and Saturdays are the most intense at 103 percent of average.

Exhibit IV-4

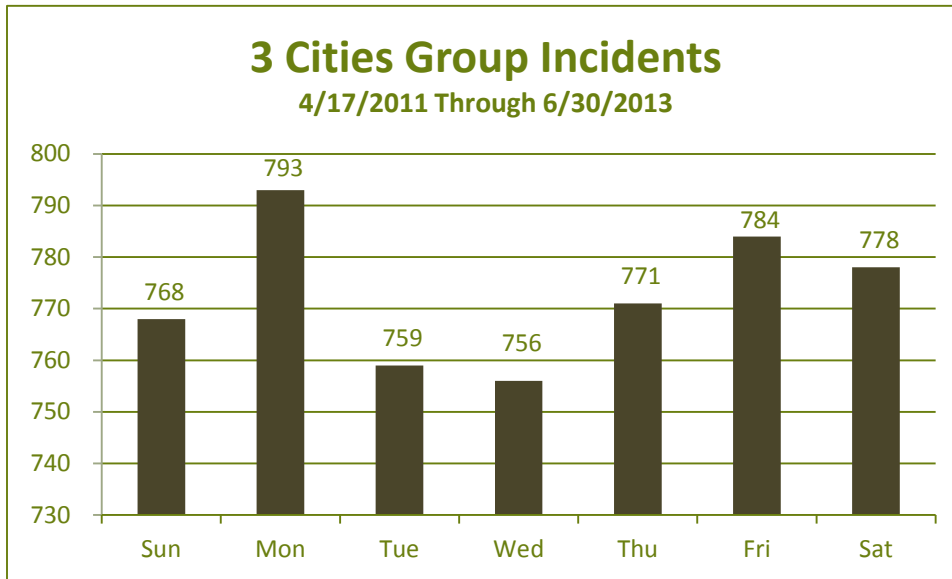
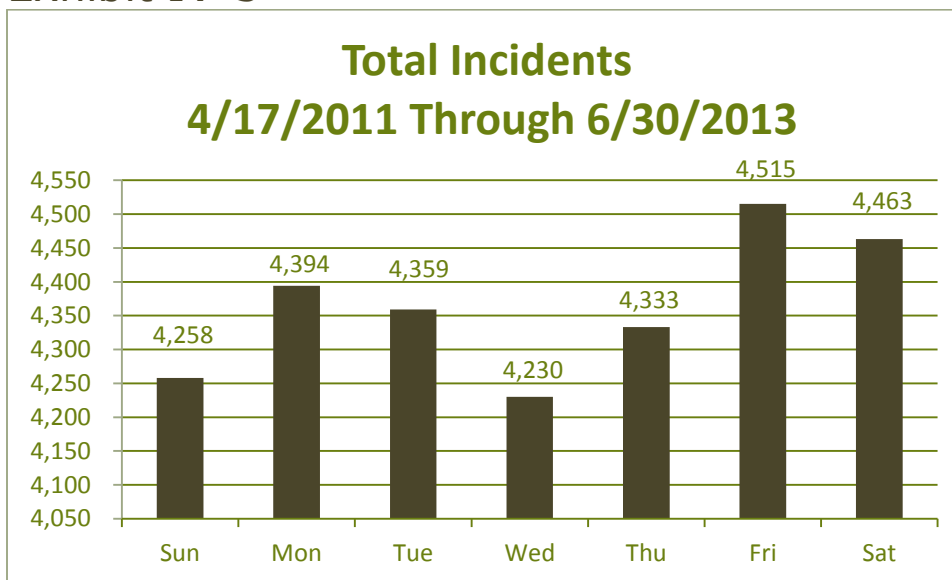


Exhibit IV-5



Calls are also received on a daily pattern. Exhibits IV-6A, 6B and 6C display the daily call pattern for the Three Cities service area. Careful review of the peaks and valleys in each radar diagram suggest coincidence with real world events such as morning and afternoon rush hours, social hours and recreational activity injuries. Most important from these diagrams is the regular rise and fall of call demand over the course of a day. Though not exact, a 12-hour period from about 9AM to 9PM defines the daily period of high incident demand. These would be the most effective period for additional crews and resources.

Exhibit IV-6A

Three Cities Monday Incidents

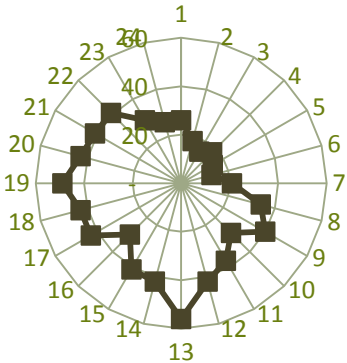


Exhibit IV-6B

Three Cities Friday Incidents

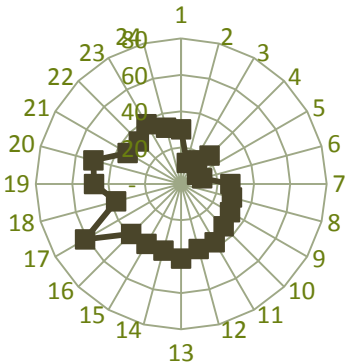


Exhibit IV-6C

Three Cities Saturday Incidents

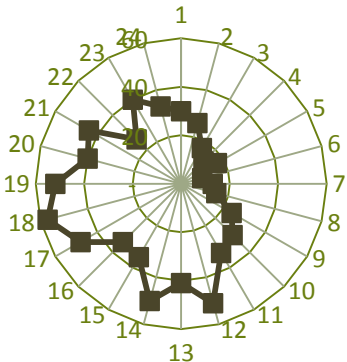


Exhibit IV-1 toward the start of this chapter indicates the high intensity “hotspot” locations in the Three Cities service area. We reprint Exhibit III-4 below, which contains the five highest intensity hotspots for each of the three cities. These include several mobile home parks, senior living centers, motels and the I-84 commercial area, popular restaurants, and big box stores. Reynolds High School on Cherry Park Road also appears as a hotspot on the intensity map.

Exhibit III-4 Reprinted

City	Location	F	M	Fire&Med
Fairview	21100 NE SANDY BLVD	24	116	140
	3201 NE 223RD AVE	15	68	83
	305 7TH ST	19	60	79
	20660 NE SANDVIEW DR	1	78	79
	21401 NE SANDY BLVD	8	41	49
Troutdale	1323 SW CHERRY PARK RD	81	130	211
	1201 SW CHERRY PARK RD	13	135	148
	1610 NW FRONTAGE RD	5	66	71
	790 NW FRONTAGE RD	11	57	68
	2126 SW HALSEY ST	16	43	59
Wood Village	23500 NE HALSEY ST	5	163	168
	2060 NE 238TH DR	8	116	124
	23500 NE SANDY BLVD	20	61	81
	1440 NE 223RD AVE	30	49	79
	23300 NE ARATA RD	9	45	54

The intensity map displays an increased intensity for the recreation areas on the east and west sides of the Sandy River. Though not a colored high intensity site on the heat map (Exhibit IV-1), Blue Lake Park appears to have a small, but consistent occurrence of incidents. Reaching Blue Lake Park takes a long response time from Station 74.

Any arrangement for fire and EMS must include on-time response for Priority I and Priority 3 calls to hotspots across the Three Cities service area. Fire and EMS must also have sufficient capacity at the correct hours of the day and days of the week to meet time sensitive demand.

Service Configurations to Meet Call Demand

We have outlined the service needs for the Three Cities service area. The alternatives in the next chapter provide options of how to respond to the service needs. As a comparison baseline, we now describe how the Gresham FES organizes and dispatches fire engines, crews and vehicles to incidents. Recall that Gresham FES dispatches a 3-person fire engine as its standard response. Again, the data contains all calls from April 2011 through June 2013. Exhibit IV-7, lists the combinations of vehicles used by Gresham FES.

Exhibit IV-7

Response Composition	Total Incidents	%
Fire Engine & Ambulance	3,484	64%
Fire Engine	977	18%
2 Fire Engines & Ambulance	330	6%
2 Fire Engines	145	3%
Fire Engine & 2 Ambulances	101	2%
2 Fire Engines & Command	84	2%
Public Info	67	1%
Ambulance	55	1%
3 Fire Engines	46	1%
Other	38	1%
Fire Engine, Ambulance & Command	37	1%
2 Command & Fire Engine	21	0%
3 Command	13	0%
Fire Engine, Ambulance & Other	7	0%
Fire Engine & Command	4	0%
Grand Total	5,409	100%

Vehicle combinations of fire engines and ambulances are the standard response for EMS calls for service. A single engine and an ambulance, and the combined crew of 5 (2 ambulance and 3 fire) provided the response combination in 64 percent of all calls. Additional combinations of fire engines and ambulances responded to another 10 percent of all calls. Together these percentages total 74 percent of all runs, which is consistent with the 74/26 percent breakdown of medical versus fire calls in the Gresham system.

A critical analysis of vehicles, equipment and staffing must examine whether the combination of a full fire engine and ambulance is a sufficient and efficient EMS response. For example, Tualatin Valley Fire and Rescue district addressed this issue in its 2010 deployment changes (TVF&R 2010). TVF&R now utilizes a combination of fire engines and ambulances, 2-person rapid response trucks and ambulances, and 1-person cars to meet the varying response needs of its calls.

Exhibit IV-7 can also give some indication of the occurrence of major incidents that draw on the depth and capacity of the full system. Vehicle combinations in the table with a

command vehicle and multiple fire engines typically indicate a major event. Note that on a percentage basis in this table, these events constitute only 3-4 percent of all calls. **It is very important to note that the BoEC data set used for this analysis only reports the first three units dispatched to an incident.** Once these three have been dispatched, there may be many more that follow—additional engines, ladder truck, Hazmat truck, ambulances, boat and water rescue squad, but the data does not report their on-scene presence. **This is a limitation of the dataset and this analysis.**

Three Cities Response Time Performance

Most fire and EMS service products are time-sensitive. Most obvious, Priority 1 EM services and many fire calls must have the fastest possible response to save lives, to improve patient recovery and to save property from damage or loss. “Speed can save” is a common adage in the FEMS world. A response time of 3 minutes might save a heart attack victim, or prevent lasting injury from a stroke, whereas 7 minutes might be too little, too late. Attention and response to a smoldering blaze 5 minutes after smoke is reported might prevent a “flash fire” that at minute 8 could lead to massive property loss. Less immediate, but time-sensitive Priority 3 EMS calls still require a timely response to stabilize the patient and to prevent further injury. Even specialized apparatus, such as ladder trucks, are measured on response times with longer time standards. For these and other reasons, several national standards exist to set goals and measure performance for first response. These standards include:

Action	Response Time
Basic life support (CPR and defibrillation) American Heart Association	Within 4 minutes
National Fire Protection Association (NFPA) 1710	4 minutes or less 90% of total calls
Advanced life support (paramedic services)	Within 8 minutes
Paramedic 12-lead ECG, oxygen and medications	Within 6 minutes

There are two major reasons that response times will often exceed the goal of 4 to 6 minutes. The first is the most basic: geography. Stations should be located centrally to best access all points of the surrounding service area, but because of topography, community opposition, real estate availability, and limited and poor road access, there will be certain parts of the service area that lie relatively longer distances away from the nearest station. These neighborhoods and locations tend to suffer from consistently poorer response times. In the case of the Three Cities, the neighborhoods of southeast Troutdale west of the Sandy River are relatively distant from Fire Station 75 located near central Troutdale. For Station 74, portions of Fairview and Wood Village north of Interstate-84 (including Blue Lake park) can be challenging to serve.

A second major reason for poor response time performance is the situation of “overlapping calls.” Put in real-life terms, what happens when a medical emergency call comes in from a Three Cities resident living close to Station 74 – but just 5 minutes earlier, its truck and crew were dispatched in the other direction to respond to a fire alarm? A unit from another station must now travel an extended distance to respond to the second call. This is the issue of system reliability, and we investigate it fully in the following section of this chapter.

Relative to other urban and suburban areas in the Gresham system, the Three Cities service area generally suffers from poor response time performance. Exhibit IV-8 breaks out response times by time category for both the Three Cities service area, and for the “Other”

areas in the system. The Other areas include the City of Gresham, the RFPD10 unincorporated area, and mutual aid dispatches to destinations outside the system.

Exhibit IV-8

Response time in Minutes	3 Cities Group	Other	Grand Total
<4	24%	29%	28%
4 to 6	36%	43%	41%
6 to 8	22%	15%	16%
greater than 8	10%	7%	7%
Time not listed	7%	7%	7%
Grand Total	100%	100%	100%

Exhibit IV-8 demonstrates (mauve) that 32 percent of all Three Cities calls take more than 6 minutes to respond to. This compares to only 22 percent of calls for the other parts of the system, and 23 percent for the system as a whole.

A more critical breakout is for EMS Priority 1 calls. This category includes calls for cardiac, breathing and stroke situations. Exhibit IV-9 breaks out response times by dispatching station. Stations 74 and 75 have a higher percentage of calls taking 6 or more minutes than other urban and suburban stations in the system. The only worse performer is Station 76, which serves a more rural area with extended travel distances.

Exhibit IV-9: Priority 1 EMS Calls Only

Response time in Minutes	31	71	72	73	74	75	76	Other	Total
<4	33%	36%	47%	32%	24%	37%	12%	29%	34%
4 to 6	50%	43%	39%	50%	49%	37%	41%	38%	44%
6 to 8	10%	13%	8%	13%	17%	18%	31%	20%	14%
greater than 8	3%	4%	3%	3%	4%	4%	12%	6%	4%
Time not listed	4%	5%	3%	2%	5%	4%	5%	7%	4%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

For Stations 31, 71, 72 and 73, which serve urban and suburban areas, 6 minute or greater responses occur between 11 and 17 percent of all responses. Comparable numbers for Stations 74 and 75 rise to 21 and 22 percent respectively. Station 74 does especially poorly on the percentage of calls within 4 minutes. Any new arrangement by the Three Cities for fire and emergency medical services must address and rectify this reduced level of performance.

Simultaneous, Overlapping Calls and System Reliability

The second reason for extended response times is the need for one unit in a system to cover when another has been dispatched on a call. In the Gresham system, EMS medical calls average just over an hour in length, and fire calls average about a half an hour. In a large system like Gresham, many overlapping calls occur on opposite sides of the system, with little or no impact or delays on response times. But, where multiple incidents and calls occur in proximity, response times can easily be affected. The potential for an "overlap call" situation is even greater during certain times of day.

As noted earlier, approximately 70 percent of Three Cities' calls occur within a 12-hour period, roughly from 9AM to 9PM. A Three Cities resident suffering a dire medical emergency at 3AM – one of the system's slowest times – is more likely to receive timely service response from his or her local station. The same event, occurring in the middle of the afternoon, may likely encounter a call overlap situation, which would typically result in longer response times from a backup station. While Gresham FES is very good about responding to overlap situations by moving and pre-staging vehicle, overlapping calls inevitably must pull units from across the larger system, and they introduce gaps in coverage and extended response times.

Exhibit IV-10 categorizes calls in the Three Cities area by service time duration, again for the period of April 2011 to June 2013. The breakout shows that almost half the calls took between 1 and 2 hours. An additional 17 percent of calls lasted longer than 2 hours and up to a full day. These numbers help explain the overlapping call situation, especially during the 9AM to 9PM peak service hours. For the Three Cities area, 21 percent of all calls overlap with another one or more calls. This is based on a call rate of about 7 calls per day (6.7 calls) to the Three Cities service area. Any new service arrangement must recognize, plan for and provide resources to cover fully call overlap situations.

Exhibit IV-10

Call Duration April 2011 to June 2013		
	Incidents	Percentage
0<30 Min	1,251	23%
30<60 Min	575	11%
60 Min < 2 Hours	2,666	49%
2 Hours < All day	910	17%
> 1 day or time not listed	7	0%
Total	5,409	100%

Exhibit IV-11

Call Sequence	Call Count	Percentage
Overlapping	1,137	21%
Single, Non-overlap	4,272	79%
Total	5,409	100%

How Do the Three Cities Receive and Contribute Mutual Aid?

The Three Cities service area is not an isolated subdivision of the larger Gresham FES. Instead, under current arrangements, the Three Cities service area is an integrated element of the larger Gresham system. Fire engines, crews and specialized equipment flow to and from the Three Cities service area on a routine basis. This is part of the benefit of receiving service from an integrated system. In some instances, the support comes across mutual service area boundaries where a station other than 74 or 75 is in relatively close proximity.

In other instances, units 74 or 75 may be dispatched on a call, and the adjacent Gresham station provides coverage in a reasonable response time.

The map in Exhibit III-2, which displays all the Gresham stations on a base map, gives a sense of how this coverage works. Exhibit IV-12 details the source of service response to the Three Cities service area. Response is broken out between Stations 74 and 75 (the Three Cities' home area stations), and all other stations in the Gresham system. Of the total 5,409 service calls from April 2011 to June 2013, 1,084 (deeper blue shading) or 20 percent were from stations other than 74 and 75.

Were the Three Cities an independent fire district, it would need to receive mutual aid from other districts when its resources were overwhelmed by numerous overlapping calls, or during major events when the reserve, surge capacity of a Three Cities district would be overwhelmed. An independent district might also try to more fully cover its own territory rather than request mutual aid. In the current Gresham system, stations 74 and 75 rarely backstop each other to assure coverage (Exhibits III-6 and III-7 bar charts). The one exception to this behavior is where both stations service Wood Village. Under an independent district with a two-station configuration, the stations would likely more strongly support each other. Still, discussions with Chief Ted Kunze of the Canby RFPD 62 indicated that their independent district routinely receives and donates mutual aid. Canby provides ambulance services in addition to fire and EMS, and it works closely with AMR in Clackamas County to create seamless service response in areas near the edges of its district.

On the opposite side of the coin, mutual aid requires contributions. Under the current Gresham system, stations 74 and 75 rarely contribute mutual aid. Exhibit IV-12 indicates that only 18 calls out of a total of 4,325 calls (0.4 percent, deep blue shading) from Stations 74 and 75 were to provide mutual aid. The Gresham FES and BoEC dispatchers typically use other units on mutual aid calls. However, an independent Three Cities fire department or fire district would need to contribute units and resources to mutual aid requests at a much higher level. This level would ideally roughly match the mutual aid the department or district received.

Exhibit IV-12

3 Cities Group	3 Cities Group							
Count of Incident Number	Column Labels							
Row Labels	1	3	9	Fire	Mutual Aid	Other	Service	Grand Total
Not 74 or 75	312	417	31	151	5	140	28	1,084
<4	69	73	2	18	2	20	1	185
4 to 6	116	159	4	41		19	6	345
6 to 8	83	107	10	41		18	7	266
greater than 8	27	50	10	35	3	19	14	158
Time not listed	17	28	5	16		64		130
74 or 75	1,126	2,163	209	302	18	343	164	4,325
<4	351	639	18	34	2	69	23	1,136
4 to 6	448	860	54	104	7	108	39	1,620
6 to 8	219	439	63	85	5	67	56	934
greater than 8	59	129	50	44	3	58	39	382
Time not listed	49	96	24	35	1	41	7	253
Grand Total	1,438	2,580	240	453	23	483	192	5,409

Demand Risk and Service Response Structure Policy and Programs

This chapter has focused on the Three Cities service area as an identifiable unit. We began this focus with a physical description of the service area because Three Cities decision makers need to understand the service area as an identifiable entity. The unified service area is also large enough to exceed the capacity of existing fire and EM units to reach any point with a 4-minute response time. The service area is large enough to require more than one station or staging points in order to meet response time requirements. Even with two responding stations, 74 and 75, the current Gresham FES arrangement returns marginal response time performance.

We also demonstrated the service needs and event risk faced by the Three Cities service area. Thirty-five percent of calls for service are for EMS Priority 1 services. In following established protocols, BoEC responds to these calls by dispatching a 3-person fire engine and an AMR ambulance with a crew of two. This places a crew of five responders on the scene of medical incidents. Part of this staffing may reflect Multnomah County Health Department protocols and guidelines for first responders and ambulance services. However, other districts have re-evaluated this level of vehicle and crew combinations (TVF&R 2010). Gresham FES may similarly be able to re-configure Priority 1 and 3 medical responses to gain efficiencies. For example, introducing and then concentrating first responder EM services crews during the busiest times of the day from 9AM to 9PM may have a significant investment return (Exhibits IV-6 above).

The incident risk table in Exhibit IV-3 also serves to remind decision makers of several key concepts. First, an incident of combustion fire will occur on average about once every 2.5 days (daily rate of 0.41). But, the data clarify that most of these fires are brush, grass, tree, garbage can or dumpster fires, or cases of illegal burning.

Second, major combustion fire events do occur, albeit at a slow rate of occurrence. Even with heightened attention to EMS first response, a fire department or district must retain the capacity to fight fires. As we note, an apartment building or multi-family housing unit structural fire occurs on average about once every 5 to 5.5 months. Residential house structural fires occur on average about once a month. A Three Cities fire service, whether one procured via a renewed Gresham IGA or some other arrangement, must have the reserve capacity of fire engines, special equipment, command, and supplemental crews to sustain a response to a major structural fire. This is the fire service product 5 described back in chapter II. The routine, EMS and fire time-sensitive response services are the primary fire department services, but a system must have the reserve and surge capacity to handle larger and more complex incidents.

Key Finding: Even with heightened attention to EMS first response, a fire department or district must retain the capacity to fight structural fires and to respond to major incidents. An effective service arrangement must manage the costs of system reserve and surge capacity in the most economical manner. A large service population helps to cover these fixed costs, but equipment and cost sharing could also help cover these costs.

No matter the service delivery arrangement, a fire department or district system must be reliable under the load of multiple calls and major events. The BoEC data indicates that about 21 percent of all calls in the Three Cities service area are overlapping. A fire department or district must have sufficient depth capacity of multiple units and the flexibility to deliver those units. The current arrangement with Gresham FES has a degree of system depth, but appears to lack the flexibility to efficiently handle overlapping calls.

And while its role in cutting overall system costs is clear, Gresham's 3-person crews can't be divided into multiple 2-person crews to more effectively respond to overlapping calls.

Finally, any arrangement for fire and EMS must include capacity for contributing to mutual aid requests from other jurisdictions. The existing "culture of expectations" surrounding mutual aid is that it be roughly reciprocal. Mutual aid is not a substitute for a lack of investment in equipment and capacity. However, a formal IGA for the use of specialized equipment and crews on a limited number of occasions annually may provide an effective service arrangement.

V. Fire and EM Services Rates and Revenues

How much do services cost?

What resources do we have to pay for services?

To set a base for system evaluation and service delivery options, this section of the report summarizes key financial information on service rates, property taxes, and historic context with Rural Fire Protection District 10 (RFPD10).

In Oregon, fire and emergency medical services (EMS) are provided through local city governments or through special districts. Rural fire districts were initially established in the 1940's to provide fire suppression and prevention services to unincorporated areas outside city boundaries. Districts relied heavily on property taxes to fund operations and for capital purchases. As cities grew in size, they were to take over the fire and EMS tasks from the districts. This is the basic story of the Three Cities. Before fiscal year 1994-1995, Rural Fire Protection District 10 (RFPD10) provided fire and EMS services to the Three Cities residents. RFD10 continues to provide fire and EMS services for unincorporated areas in east Multnomah County. The Three Cities withdrew from RFD10 in 1994-95 and took on the responsibility of providing fire and EMS to their residents. For the last 10 years (2006), the Three Cities have purchased fire and EMS from the City of Gresham under an intergovernmental agreement (IGA). Each of the Three Cities levies a property tax on its residents. Through the annual city budget, each city contributes a reimbursement to Gresham for fire and EMS.

A. Service Rates Under the Current IGA

The IGA between the Three Cities and Gresham includes a payment schedule for the 10-year agreement period. In recent years, the payments have increased by 4 percent annually under a provision in the IGA. For the 2012-13 fiscal year, Gresham's Fire and Emergency Services (Gresham FES) combined operating budget was \$17,425,297. Of this, the Three Cities paid a total of \$2,705,084, as follows Exhibit V-1:

Exhibit V-1

	2012-2013	2013-2014	2014-2015
Fairview	\$ 774,485	\$ 805,464	\$ 837,683
Troutdale	\$1,561,441	\$1,623,899	\$1,688,855
Wood Village	\$ 369,158	\$ 383,924	\$ 399,281
Total	\$2,705,084	\$2,813,287	\$2,925,819

To provide fire and EMS to unincorporated areas southeast of Gresham in the Orient and Powell Valley areas, RFD10 also contracts with Gresham for FEMS services. In 2012-13, they paid \$884,359, which made the net cost to Gresham city residents \$13,385,854. Exhibit V-2 below summarizes the Three Cities and RFD10 contributions to Gresham.

Exhibit V-2 places the annual payments by the Three Cities into context with those made by Gresham and RFD10. The exhibit also translates the payments by each jurisdiction into per unit measures, of equivalent property tax rate, cost per resident and cost per run. Based on property tax equivalent the annual payments to Gresham equal:

- Fairview: \$1.29 per \$1,000 assessed value
- Troutdale: \$1.40 per \$1,000 assessed value
- Wood Village: \$1.29 per \$1,000 assessed value
- In comparison, RFD10 and Gresham pay:
- RFD10: \$1.90 per \$1,000 assessed value
- Gresham: \$2.01 per \$1,000 assessed value.

Exhibit V-2

Gresham Fire and EMS System Revenues, Assessed Values and Unit Costs								
Under the Current Agreement with Gresham (IGA)								
City	Expenditure 2012-2013 Adopted Budget (\$)	Population Estimated July 1, 2012	Cost \$ Per Resident	Total Taxable Assessed Value 2012-2013	Cost or Cost Equivalent per \$1,000 AV	BoEC Number of Runs Calendar 2012	Number of Runs per 1,000 Residents	Cost per Run
Troutdale	\$1,561,441	16,005	97.56	\$1,115,008,909	1.40	1,208	75.5	\$1,293
Fairview	\$774,485	8,920	86.83	\$600,120,349	1.29	865	97.0	\$895
Wood Village	\$369,158	3,890	94.90	\$245,546,149	1.50	467	120.1	\$790
Tri-Cities Total	\$2,705,084	28,815	93.88	\$1,960,675,407	1.38	2,540	88.1	\$1,065
Gresham	\$13,543,486	105,970	127.80	\$6,740,276,005	2.01	9,845	92.9	\$1,376
RFD#10	\$991,749	6,797	145.91	\$521,973,398	1.90	444	65.3	\$2,234
Mutual Aid/Other						1,043		
System Total/ Ave	\$17,240,319	141,582	121.77	\$9,222,924,810	1.87	13,872	98.0	\$1,243
Non-Gresham share	\$3,696,833	21%						

Exhibit V-2 points out that Three Cities residents pay a relatively smaller share into the Gresham FES. This is especially evident on a property tax basis of \$1,000 assessed value. However, the exhibit also points out that Troutdale residents place light load on the system (75.5 runs per 1,000 residents), Wood Village at 120 runs the heaviest because of its care facilities. The Three Cities as a group place a slightly lighter load on the system than the system average (88.1 runs per 1,000 compared to 98.0 runs per 1,000 residents). As a group, RFD10 residents have the lightest load and impact on the system, but pay one of the highest rates per \$1,000 assessed value. The system average cost per \$1,000 or \$1.87 sets a baseline cost rate for the full system.

The right-most column in Exhibit V-2 displays the cost per run for each jurisdiction served by the Gresham FES. The relatively low costs per run for Fairview and Wood Village reflect

the minimal payments made by these cities. The relatively high number for Troutdale reflects the relatively few runs made to Troutdale residents. In general, though the exhibit points out that a fire or EMS run cost around \$1,000 to \$1,200.

We should also again point out that the Gresham FES is a low-cost provider of fire and EM services. We reviewed the evidence for this in Chapter III in Exhibit III-8. We reproduce that exhibit to support the low-cost argument. .

Exhibit III-8 Reprinted

Peer Fire Systems Cost Comparison Measures								
City or District	Operating Expenditure \$ 2012-2013 Adopted Budget	Population	Cost \$ per Resident	Taxable Assessed Value FY2012	Cost per \$1,000 AV	Number of Annual Runs	Cost per Run	Runs per 1,000 Population
GFES	\$17,240,319	141,582	\$121.77	\$9,222,924,810	\$1.87	13,872	\$1,243	98
Salem	\$25,544,450	156,455	\$163.27	\$9,156,859,529	\$2.79	17,236	\$1,482	110
Hillsboro	\$18,339,773	92,550	\$198.16	\$9,094,410,587	\$2.02	7,735	\$2,371	84
Medford	\$12,730,460	86,223	\$147.65	\$6,575,168,784	\$1.94	9,058	\$1,405	105
TVF&R	\$77,207,690	440,000	\$175.47	\$43,492,389,466	\$1.78	32,826	\$2,352	75
Assessed values from Multnomah County Assessor 2012-2013 for Three Cities, RFD10, Gresham, TVF&R.								
Assessed values from Clackamas County Assessor for 2012-2013.								

Taken together Exhibit V-2 and Exhibit III-8 indicate that Three Cities residents receive fire and EM services at rates about 20 to 30 percent less than in many other jurisdictions.

Key Finding: Under the current IGA, Three Cities residents are receiving services for about 20-30% less than Gresham and RFPD10 residents.

Exhibit V-3 below reinforces the notion that Three Cities residents are receiving cost efficient services. Exhibits V-3 compares the permanent and supplemental property tax rates for a wide range of fire districts in the Portland metropolitan area and northern Willamette Valley. These rates are taken from the Multnomah and Clackamas County Assessors' webpages. Readers must interpret the rates in the Exhibit V-3 table with care. While most jurisdictions will levy up to their full permanent rate and base their budget on that full amount of revenue, some jurisdictions only levy a portion of their full permanent rate (e.g. RFPD10). Thus, some jurisdictions could base their annual budget on a smaller level of revenue than the table indicates. However, the table does provide a sense of what jurisdictions are charging to cover the costs of fire and EM services.

Exhibit V-3

Rural Fire District	Measure 50 Permanent Rate/ \$1,000 AV Operating	Maximum Supplemental Rate/ \$1,000 AV Operating	Total Rate / \$1,000 AV Operating	Total Assessed Value 2012-- 2013
Three Cities Group				\$ 1,960,675,407
Gresham FES			1.9000	\$9,222,924,810
Clackamas 1	2.4012		2.4012	\$15,841,226,791
Lake Grove 57	1.9092	0.5500	2.4592	\$395,600,906
Boring 59	2.3771		2.3771	\$1,614,056,810
Riverdale 60/11J (LO)	1.2361	0.4300	1.7361	\$617,168,380
Canby 62	1.5456	0.3400	1.8856	\$1,765,015,954
Aurora 63	0.8443	0.4900	1.3343	\$214,297,701
Tualatin Valley 64	1.5252	0.2500	1.7752	\$43,492,389,466
Estacada 69	2.4029		2.4029	\$854,929,549
Colton 70	1.5601		1.5601	\$194,572,236
Sandy 72	2.1775		2.1775	\$1,385,680,157
Molalla 73	0.7833		0.7833	\$1,193,030,571
Hoodland 74 Welches	2.6385		2.6385	\$812,001,563
Multnomah RFPD10	2.8527		2.8527	\$530,935,725
Multnomah RFPD14 Corbett	1.2624		1.2624	\$335,130,665

Exhibit V-3 includes the assessed value of property protected by each fire district. The Three Cities service area protects about \$1.9 billion in value, while the total Gresham FES system protects about \$9.2 billion. In contrast, the Clackamas #1 district protects about \$15 billion, while the Tualatin Valley Fire and Rescue (TVF&R) mega-district protects almost \$43.5 billion. The Boring and Canby Rural Fire Protection Districts protect values of property similar to that of the Three Cities service area. The range of districts in Exhibit V-3 can be misleading because they include very rural districts (Corbett RFPD 14 and Molalla). More relevant comparator districts with substantial suburban and urban districts, like the Three Cities, include: Canby, Sandy, Boring, and Clackamas #1. The Measure 50 permanent tax rates for these comparator districts range from:

- Canby: \$1.88 per \$1,000
- Sandy: \$2.18 per \$1,000

- Boring: \$2.37 per \$1,000
- Clackamas #1 \$2.40 per \$1,000
- And by contrast
- Gresham FES: \$1.87 per \$1,000

There are many reasons behind the variation in permanent rates. Canby and Sandy make strong use of volunteers, and have ambulance services that generate revenues and help to increase the flexibility of their systems. Clackamas #1 employs a substantial share of career firefighters.

B. Property Tax Rates and Limitations

The Three Cities levy a property tax to fund much of their general fund activities, including payments to Gresham for fire and EMS, and payments to the City of Portland for 911 dispatch services provided by the Bureau of Emergency Communications (BoEC). Based on rates from the Multnomah County Assessor’s Office and the Tax Supervising and Conservation Commission (TSCC 2013), the Three Cities may levy a permanent tax rate under Measure 50. Wood Village levies a lower rate than the other cities, and Gresham’s rate included for comparison, is slightly less than Troutdale’s (Exhibit V-4).

Exhibit V-4

City/ Tax Levy Code Areas	City Permanent Rate Levy	Total General Government Rate (2013-2014) (Includes new Multco Library Dist.)	Total All Rates
Fairview 240	3.4902	9.4263	16.7868
Fairview 404	3.4902	9.4263	16.7868
Troutdale 242,931	3.7652	9.7619	18.3555
Troutdale 248	3.7652	9.7165	17.8947
Troutdale 374 (also includes CRFPD14 \$1.2624/ 1,000)	3.7652	11.0243	19.6179
Wood Village 241, 932	3.1262	9.1406	16.4228
Gresham	3.6129	9.5827-10.2121	
RFD10	2.8527/2.7500	8.4935-8.9284	

Measure 5 places cap on three categories of tax districts and bond measures. The general government category includes all governments and special districts including cities, ports, library districts, fire districts, and other service districts. Measure 5 caps the levy for general government services at \$10 per \$1,000 assessed value. Similarly, education districts including school districts, education service districts, and community colleges are capped at \$5 per \$1,000 assessed value. Bond measures for capital projects and purchases are uncapped under Measure 5. Exhibit V-4 demonstrates that all three cities have a small amount of unclaimed levy authority under the Measure 5 general government cap. Wood Village and Fairview have the most, while Troutdale has the least at 24 cents or 28 cents per \$1,000 assessed value of property. The property tax rates in this Exhibit indicate that

there may be a small amount of room to generate additional revenue for alternate fire and EMS service delivery packages.

C. RFPD10 Legacy and a Potential Actor

RFPD10 served as the provider of fire and EMS for the Three Cities service area up until 1994-1995. RFD10 owns the fire Station 75 facility from which Gresham FES provides service to Troutdale and Wood Village. Gresham FES pays an annual maintenance fee to use the station. In some years in turn, RFPD10 pays Gresham to perform maintenance projects on the station. RFD10 also owns the training facility used by Gresham FES at Station 74, although Gresham owns that fire station facility itself.

Today, RFPD10 continues in operation, but at low level. The district does not directly deliver services, and the staff operates on a part-time basis. RFPD10, however, retains its property tax authority with a substantial Measure 50 permanent rate of \$2.8527 per \$1,000 assessed value. In recent years, the district has levied only a portion of this total rate. In 2012-2013, the district levied a \$2.75 on its residents. It used these funds to purchase fire and EMS for its service area in unincorporated east Multnomah County near Orient, to purchase fire and EMS from the City of Portland for the residents of the City of Maywood Park, and to build a replacement fire station for the current Station 76, southeast of Gresham (TSCC 2013). Its substantial permanent tax rate makes RFPD10 a quiet, but potential actor in alternate fire and EMS arrangements.

VI. Recommendations

Based on our observations, document research, interviews and data analysis, the Portland State CPS team makes the following recommendations to the Three Cities. We break our recommendations into two categories: 8 general recommendations, and 2 technical recommendations.

A. General Recommendations:

1) Continue to Address this Issue as a Unified Team. We strongly encourage the Cities of Fairview, Troutdale and Wood Village to continue to act as a unified team on the fire and EM services issue. The combined population, service area and financial resources of the Three Cities more appropriately match in scale to many aspects of fire and EM services systems, including: facilities, vehicle and equipment capital investment; system staffing and recruitment; system-wide training and operational readiness; and system reliability and capacity.

2) Fully Consider an IGA Renewal with the Gresham FES. Our review findings highlight that Gresham FES is a lower-cost provider among peer fire and EM systems. As the current IGA demonstrates, Gresham FES service to the Three Cities is fully and readily feasible from an operational viewpoint. While the Gresham FES has challenges with overlapping call coverage and system reliability, the system is large enough to have deep service capacity and specialized vehicles and equipment. Against these strengths, we note poor performance on response times in the Three Cities service area, especially from Station 74. On balance, we encourage the Three Cities to look carefully and diligently at the opportunity to renegotiate a service agreement from Gresham FES that addresses these issues

3) Work with Gresham to Lower Costs and to Improve Service. Should the Three Cities decide to work with Gresham FES on renewed service, all parties should work to lower the costs of providing services. While Gresham is a lower-cost provider, careful reforms to service configurations could further reduce costs. Success in becoming even more cost-effective in its delivery of services could also assist Gresham FES as it seeks approval from Gresham voters in the May 2014 election for a Public Safety supplemental property tax levy.

4) Implement Several Pilot Projects to Reduce Costs and Improve Services. Should the Three Cities decide to work with Gresham FES on a renewed service agreement, all parties should work together to design and implement innovative pilot projects with the potential to significantly reduce costs and improve services. Pilot projects could include: Implementation of peak time (e.g. 9am to 9pm), 12-hour shift, 2-person crews with EMT and paramedic certification. These crews could be deployed in Rapid Response Vehicles (RRVs) in response to medical calls, which are now handled by 3-person crews and fire trucks operating out of Station 74 and other selected Gresham Stations; Purchase of first-responder, emergency medical (EM) services directly from AMR, through a separate contract that would be based on a per run rate or on a bulk basis (e.g. purchase of 300 runs over a year). This arrangement would also likely require agreement between the Three Cities, Gresham FES and BoEC to create the dispatch protocols needed so that fire service personnel would no longer need to be sent to those incidents; Establish a relatively low-cost "satellite station" at one or two strategic locations within the Three Cities geography (e.g. near certain incident hot spots), that would be operated by Gresham FES and house emergency medical response personnel, equipment and vehicle.

5) Require that any Renewed IGA with Gresham FES Include Service Standards.

As noted above, and as the research team discussed at the January 13, 2014 joint council work session, Gresham FES has yet to prepare a “Standards of Cover” document for its system. Such a document, focusing on key issues including community risk, service demand and service response goals, has been prepared by numerous Oregon city fire departments and special districts, including the City of Portland, Clackamas County #1, Tualatin Valley Fire & Rescue, City of Salem and City of Bend. Preparation of this document will provide critical, unbiased information to citizens and all parties involved in the Three Cities renegotiation of fire and EM services, not to mention to Gresham voters as they weigh community risks, service response levels, and costs and tax burdens on their May 2014 public safety levy ballot.

6) Require Development of an Accomplishment Reporting System and a Performance Improvement System. For any future arrangement of fire and EM services, the Three Cities’ elected officials should require its chosen provider to develop: 1) an annual accomplishment reporting system, and 2) a performance improvement and reporting system. This requirement should apply to an IGA renewal with Gresham FES, to a new IGA or service contract with another external provider, or to a new internal fire and EM department established within one of the cities. We outline possible criteria for an accomplishment reporting system below under Technical Recommendations. We also provide a reference source for the development of a fire and EM services performance improvement system.

7) Include Performance Outcomes in Any Procurement. As the Three Cities move to identify a new service delivery arrangement, they should define in advance the service delivery criteria and performance outcomes they expect from a provider. These expectations provide a basis for cost and revenue analysis, and criteria for a procurement request for proposals (RFP) from providers. Community demographics, geography and transportation system, incident occurrence probabilities, historic demand for services, and performance expectations provide the basis for performance outcomes. Some potential performance objectives (criteria) could include, but are not limited to:

Provide fire and EM services cost-effectively and with 100% reliability for the service population of about 29,000 residents over the Three Cities service area, given the current and future balance of call types (approximately 24% fire and 76% medical), at or below a specified cost rate for service (e.g. \$ per \$1,000 assessed property value). The current Gresham FES system-wide cost rate is about \$1.88/\$1,000 assessed property value.

Provide a balanced service profile of immediate response calls (Priority 1 medical and initial attack fire calls); prompt response calls (Priority 3); assistance response calls (Priority 9 and service fire); major event surge personnel and equipment capacity calls; and emergency management plan responses. In consultation with the Three Cities, design and weight the service profile to appropriately emphasize emergency medical response for Priorities 1 and 3.

A response time standard for EM service Priority 1 calls for emergency medical service first response (BLS) with defibrillator (dispatch to arrival) of 4 minutes or less for 50% of dispatched calls. (Current performance is 24% for Station 74 and 37% for Station 75, and the current best is 47% for Station 72). The response time on the remaining 50% of calls should be 6 minutes or less.

A response time standard for EM service Priority 1 calls for emergency medical service ALS (paramedic) response of 8 minutes or less for 100% of calls. (Current performance for both Stations 74 and 75 are 4% exceeding the 8 minute standard).

An EM service Priority 3 response time standard (dispatch to arrival) of 6 minutes or less, for 75% of calls. (Current performance is 68% for Station 74 and 73% for Station 75. Again, Station 72 is highest in Gresham FES with 83%).

A fire service response time standard (dispatch to arrival) of 6 minutes or less for 75% of calls.

A limit on property loss as percent of property value ratio to 0.50% or less, on an annual basis or on a rolling average (prior moving average) basis over multiple years. While the Gresham FES currently does not report this statistic, and it is difficult to assess in the field, we note that the City of Portland has reported an annual ratio of 0.38 to 0.43 over the last three years. The Canby Fire District reports ratios from 2008 to 2012 that range from of 0.31% to 1.57% (personal communication Chief Ted Kunze, January 14, 2014). It is worth noting that in 2007, Canby's loss ratio was 11.14%, likely due to a major fire event and suggesting that a multiple year rolling average might be a better approach for small to mid-sized jurisdictions.

Limit the ratio of annual property loss to total assessed property value, to \$350 or less per \$1,000,000 (one million dollars) of assessed value. This relatively new (and not currently used) standard would compare the aggregated annual losses to the total assessed value under care of the department or fire district. It would thus capture the effectiveness of loss prevention programs and increased effectiveness in the area of suppression and response tactics, providing a more complete picture of service effectiveness. Applied to the Canby Fire District, for example, this ratio recently ranged from \$92/\$1million AV in 2012 to \$513/\$1 million in 2010.

8) Informally Recognize the Insurance Industry ISO Rating and Improve on It.

The Gresham FES and city infrastructure currently provides the Three Cities service area with a level 3 ISO rating. ISO levels range from 1 to 10 with a one as the highest quality level of service. The ISO Fire Suppression Rating Schedule (ISO Mitigation 2013) is an insurance industry sponsored rating system of fire departments and districts. According to its supporters, the ISO system provides a useful and comprehensive evaluation of fire system capacity, as its rating criteria examine: 1) fire alarm, dispatch and communication systems; 2) fire station locations, vehicles, apparatus, type and number of trained personnel, and firefighter response; and 3) water supply, pumps, storage and distribution. However, the criteria and field application of the ISO system are subjects of extensive controversy among Oregon fire chiefs. We also note that Idaho and Washington have established their own independent community risk and fire service rating systems.

We recommend that the Three Cities not include a requirement for its provider to maintain at least an ISO 3 rating, given the controversy about the standards and the fact that many of the current criteria are arguably beyond the control of the provider, and the rating system is highly controversial. However, we do recommend that the Three Cities -- and any current or new service provider -- should set as an operational goal the maintenance (or even improvement) upon the current ISO 3 rating. This will help to ensure stable property and casualty insurance premiums for businesses and homeowners.

B. Technical Recommendations:

In the preceding section, we encourage the Three Cities and any service provider to develop and implement two important components going forward: 1) an annual accomplishment reporting system; and 2) a performance improvement and reporting system. Below are some additional, technical recommendations on these two systems

1) Annual Accomplishment Reporting. An accomplishment reporting system should establish workload and performance accomplishment measures and indicators, and collect data on fire and EM system accomplishment based on the previously defined measures. The measured accomplishments should be reported quarterly, and then annually, to the system user board, and to all governing jurisdiction city councils and boards. We encourage the executive leadership from service providers to testify annually before each of the three city councils to report accomplishments and to request funding for the coming fiscal year. Annual budgets from several cities demonstrate an array of workload accomplishment indicators (e.g. Cities of Lake Oswego (2013), Camas, WA (2011) and Portland, OR (2013)). The City of San Antonio (2010) has a well-developed quarterly accomplishment reporting system with performance and benchmark data (City of San Antonio 2010). Exhibit VI-1 lists recommended workload criteria for quarterly and annual accomplishment reporting.

Exhibit VI-1: Recommended Fire and EM Services Accomplishment Indicators

Response Time Indicators
Medical incident response times by priority 1, 3 or 9, by average, 90 percent standard, and by 2 minute interval
Fire service incident response times by average, 90 percent standard, and by 2 minute interval
Medical Criteria
Total Number of Medical Incidents
Number of Medical Incidents per 1,000 residents
Priority 1 Cardiac (number of incidents)
Priority 1 Stroke (number of incidents)
Priority 1 Trauma (number of incidents)
Priority 1 Respiratory (number of incidents)
Priority 1 Other incidents
Total Priority 1 incidents
Total Priority 3 incidents
Total Priority 9 incidents
Average elapsed service time for EM incidents
Fire Service Criteria
Total Number of Fire Service Incidents
Total Number of Combustion Fire Incidents per 1,000 residents
Fire combustion incidents broken out by type
Residential Single Family Structural Fires
Multi-family Structural Fires
Commercial Structural Fires
Chimney Fires
Trash, Rubbish, Dumpster Fires
Vehicle Fires
Brush, Grass, Bark dust, Wildland Fires
Other combustion Fires

Hazardous Condition Incidents
Flammable Liquid Spill
Natural Gas Leak
Electrical Wiring/ Equipment
Power Line Down
Hazardous Material
Other
Specialized Rescue
Vehicle Extraction (no fire)
Confined Space Rescue
Water/River Rescue
Good Intent
Dispatched & Cancelled
Wrong Location
No Incident Found
Smoke-Odor and Smoke Steam
Other
False Alarm Incidents
False Alarm
Malicious Alarm
System Malfunction
Smoke Detector Malfunction
Other
Service Calls
Public Assistance
Severe Weather
Total Fire Service Incidents
Mutual Aid Incident Given
Station Reliability/ Availability Percentage
Firefighter Wellness: Injuries Incurred
Firefighter Wellness: Prevention & Training Hours
Firefighter Wellness: Hours of Firefighter time lost to impaired duty, treatment or recovery
Incident Prevention and Call Reduction
Code Enforcement Inspections Performed by Category
Code Enforcement Inspections by 1,000 population and \$1,000 assessed value
Code Violations Found per Number of Inspections
Site and Building Plans Reviewed
Average Review Time Small and Minor Plans
Average Review Time Major Plans
Community Outreach Visits for Call Reduction (consultations with group care facilities, apt managers, corporate risk managers, etc.)
Calls for Service/1,000 Residents

The detail in Exhibit VI-1 is extensive, but it provides important management information to fully understand the function and accomplishment of a fire and EM provider. For example, breaking out the Priority 1 EM calls is not difficult from a data analysis perspective, but it gives clarity to the number of incidents that demand immediate, 4-minute response.

The performance outcomes described above as part of a procurement package should form the basis for annual performance outcome reporting and evaluation. The workload accomplishment information in Exhibit VI-1 complements performance outcomes to make a complete reporting package. The Three Cities should work with their future provider to define and agree to performance outcomes, outcome criteria, and accomplishment reporting criteria, and include these measures as a provision in any IGA or contract. For further background on performance improvement, see Lancer Julnes and Holzer (2008) and the ICMA Center for Public Safety Management (http://icma.org/en/results/public_safety_management/home).

2) Performance and Productivity Improvement System. In addition to reporting on progress toward performance outcome and annual accomplishments, we recommend that the Three Cities also insist on a contract provision that requires its provider to develop and apply a performance and productivity improvement system. There are numerous examples and approaches to organizational performance improvement (e.g. LEAN, 6-Sigma, Baldrige, see Stenzel and Stenzel 2003). Jennifer Flynn of the National Fire Protection Association (NFPA; 2009) has developed a comprehensive set of performance indicators for fire and EM services. These and other examples are worth exploring to provide the base standards and criteria for such a performance and productivity improvement system.

VII. Alternative Arrangements for Service Delivery

What service delivery options do we have?

As a tool to demonstrate possible service delivery options and limitations to the Three City elected officials and administrators, the study team developed a menu of service delivery alternatives. The menu outlines a variety of fire and EM service alternatives with different staffing, shift lengths, facilities and equipment, governance, costs and financing. Several alternatives provide viable policy and program choices relative to the task of renewing fire and EM services. Other alternatives are more creative and speculative in nature. We include these alternatives in the menu because they help to stimulate creative thinking for reforms and pilot tests that could lead to program savings. We also include several alternatives with creative governance arrangements. Again, these alternatives stimulate thinking, but also provide a larger strategic context as to where Three Cities fire and EM service could evolve in the future. Almost all alternatives compare to real world examples, which we mention where applicable.

The menu of alternatives is summarized in Exhibit VII-1 on the next page. The left-most alternative, Current Arrangement Gresham FES, assumes a continuation of the current arrangement and cost structure with the City of Gresham. This alternative forms the base of comparison against which a reader can measure the other alternatives. Alternative 0 describes a series of procurement and contractual reforms that the Three Cities could apply as they obtain new service from governmental, nonprofit or for-profit providers. Alternative 1 and its three variations define a city fire department with two stations and professional staffing. Alternative 2 presents a city fire department with one large main station, a satellite sub-station and mixed professional/ volunteer staffing. Alternatives 3, 5 and 6 represent different governance arrangements with fire and EM services in a special district (3); a re-energized Rural Fire Protection District 10 (5); or a sub-county, large-scale, independent fire district (6). Finally, Alternative 4 examines splitting service provision into two contracts, one for EM services, and another for fire services.

We developed the menu of alternatives by defining a baseline alternative (1A), and then varying one or a few costs or criteria to develop the next alternative. Working across the alternative menu allows decision-makers to understand the relative, incremental effects of changes in staffing, cost, system reliability and flexibility, and reserve and system surge capacity. Exhibit VII-1 contains cost comparisons based on the standardized \$1,000/ assessed property value basis. The table also provides qualitative ratings comparing the alternative features, however, these qualitative ratings (low, medium, high) are not firm because of the numerous assumptions and uncertainties tied to each alternative. **The alternatives and their cost estimates are designed as relative comparisons.** The alternatives are not intended to provide absolute cost estimates for program development. **The Three Cities would need to conduct a detailed financial analysis before selecting a particular alternative and developing it into a full program.**

Exhibit VII-1		Comparison of Alternatives								
Rating Classes: 5=highest, 1=lowest										
Criteria	Current Arrangement Gresham FES 6.3 Station Configuration	Alternative 0 Competitive Procurement & Contract Reforms	Alternative 1A Two 4-Person Stations in-house w/ career only	Alternative 1B Two 3-Person Stations in-house w/ career only	Alternative 1C Two 3-Person Stations in-house w/ 12hr peak	Alternative 2 1.5 Stations in-house w/ volunteers	Alternative 3 Special District w/ Levy & GFES Augmented	Alternative 4 AMR EMS & Purchase Fire Services from Gresham	Alternative 5 Re-energize RFPD10 with Alternative 1A level service	Alternative 6 East Multnomah County Fire & EMS Large District
Financial										
Operating Cost per \$1,000 AV	\$1.88	\$1.85 baseline	\$2.45	\$2.00	\$2.30	\$1.73--\$2.00	\$1.85	Undetermined	up to \$2.75	\$1.77 benchmark
Capital Cost Buyout & Startup Costs	\$0	May need to build stations.	\$4.57 million	\$4.57 million	\$4.57 million	\$4.550 million	variable depending on options	\$0	\$4.57 million	Undetermined
New Revenue Increment Needed	Current fees: \$1.29, \$1.40, \$1.50	\$0.35-\$0.56/\$1,000 AV minimum	\$0.95-\$1.16/\$1,000 AV	\$0.50-\$0.71/\$1,000 AV	\$0.80-\$1.01/\$1,000 AV	\$0.23-\$0.71/\$1,000AV	\$0.35-\$0.56/\$1,000	Undetermined	\$1.25-\$1.46/\$1,000 AV	\$0.27-\$0.48/\$1,000 AV
Estimated Operational/ Performance										
Response Time: Rapid Response Fire & EMS (Priority 1)	Medium	Undetermined	High	Medium	High	Med-High	Med-High	AMR=4, Fire=2, close Sta 75?	High	Medium
Response Time: Prompt Response Fire & EMS (Priorities 3, 9)	Medium	Undetermined	Med-High	Medium	Med-High	Med-High	Med-High	AMR=4, Fire=3	Med-High	Medium
System Reserve Service Depth	Med-High	Undetermined	Medium	Med-Low	Medium	Medium	Med-High	Low	Medium	Med-High
System Reliability Multiple Calls	Medium	Undetermined	High	Med-Low	High	High	Medium	Low	High	Medium
Mutual Aid Contribution	Med-High	Undetermined	Medium	Low	Medium	Med-High	Med-High	Low	Medium	Med-High
Prevention Fire Marshal	GFES	Undetermined	In-house	In-house	In-house	In-house	In-house or GFES	Undetermined	RFPD10	District
Governance: Partner Response	Medium	Undetermined	High	High	High	High	Medium	Low	Politically Independent	Politically Independent
	Current GFES	Alt 0	Alt 1A	Alt 1B	Alt 1C	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6

Each alternative sketches a staffing and infrastructure configuration, a performance potential, and estimated costs. The alternatives cannot capture all the details necessary for each to work in practice. For example, several of the alternatives rely on volunteer staffing. Many rural fire districts use such arrangements. However, long histories and community traditions of community self-help and service sustain these departments. Such traditions would have to be built from scratch should the Three Cities elect to rely on a substantial number of volunteer firefighters.

Alternatives 1 and 2 are Related by Common Assumptions

Alternatives 1 and its variations (1A, 1B and 1C), and Alternative 2 rely on unit costs developed from comparable organizations. One set of unit costs was developed from the Gresham Fire Department budget. The Gresham costs were used because they reflected a department that uses only career employees, many with specialty certifications that raise their compensation above a base firefighter. The services currently delivered to the Three Cities relies on the all-career staffing model. Business and homeowner insurance ratings reflect this staffing. The full career staffing provides a baseline level of cost, service, productivity, and performance.

We followed a set of basic assumptions on annual service hours per FTE. For firefighters on the Kelly day extended shift, we assumed a potential service year of 2,758hrs. We adjusted this total downward to 2,600hrs to account for sick leave, vacation leave, administrative obligations and training, which removed the firefighter from his or her shift. We used the 2,600hrs as the basis for staffing computations. Similarly, for firefighters on a 12hr shift, we assumed a potential service year of 2,184hrs. These hours reflect a two-week service cycle where a firefighter works 2 days on, 3 days off, 2 days on, 2 days off, then 3 days on, and 2 days off, over a 14 day period (Homan, Shulman, Donahue 2013). Again, reflecting sick leave, vacation leave, administrative, and training, we reduced the potential hours for an actual 2,035hrs per position per year. For senior executive and administrative positions, we assumed a 40hr work week of 2,080 potential hours, but we did not adjust these hours because these positions do not demand continuous coverage.

To determine labor costs, we used Personnel Services costs from the Gresham and Boring annual budgets. We computed a per FTE labor cost, which we then used as a multiplier to determine the total labor cost for the alternative. We began by taking total wage, benefits and retirement costs budgeted for the Gresham FES and dividing those costs by the FTEs in the department. This approach ensures that a per FTE cost includes accrued, unused sick and vacation leave time. Initial computations resulted in a per FTE cost of \$132,600/FTE. Confirmation from the Gresham FES analyst placed the per FTE cost at \$134,800 without overtime. The Boring per FTE cost totaled \$136,700. Consultation with our Three City partners argued that a smaller jurisdiction would have lower wage costs because of smaller, less costly comparable organizations. Our partners suggested \$126,000/FTE because of this adjustment. We have used the \$126,000 value in our alternative computations, but we recognize that labor costs could easily rise to about \$135,000/ FTE. Using this higher value would simply shift the relative relationships between alternatives to a consistently higher cost. The comparative relationships would remain intact.

As a city department, the Gresham FES also incurs a high internal service charge. The City of Gresham uses a detailed set of 14 criteria to charge back administrative and central service costs to the program departments. The Gresham FES makes an extensive payment under this system because of its high numbers of FTEs, large numbers of vehicles needing maintenance, public safety IT needs, high facility square footage and other factors (City of Gresham 2013). Recognizing the Gresham fire internal service charge in alternative computations assures that these costs are fully reflected in any alternative total costs.

We also relied on the Boring Fire Protection District for cost data. Boring uses a three-station configuration and a mix of career and volunteer firefighters to deliver its services. Unlike the Three Cities, Boring provides much of its services in a rural environment. Boring has revised its budget presentation to capture effectively the full costs of its volunteer program. This is a recent revision which consolidates insurance, reimbursement, recruitment, retention, training, uniforms, equipment, and all other costs into a single budget line-item. This provided a clear demonstration of the costs necessary to support a volunteer program. The Boring budget also demonstrates an independent jurisdiction that must cover all of its administrative and central service costs. The budget line-items include an array of ongoing capital replacement and maintenance programs.

Considerations and Comparison of Alternatives

Three Cities elected officials and administrators face challenges of framing the fire and EM service issue, educating their citizens, and then taking the steps necessary to secure services. Exhibit VII-1 provides a tool to help Three City leaders to frame the debate as incremental tradeoffs between service levels and cost. For example, operating two stations to service the relatively small service population of about 29,000 citizens increases costs over a one-and-a-half station system, but provides faster response times and better service. Citizens and decision makers can identify and make choices over these tradeoffs. Similarly, adding additional 12hr crews at peak service times costs about a \$0.35 increment of tax levy, but greatly improves system reliability and response times. These are challenging questions of service preferences and cost, and the menu of service alternatives is designed to facilitate these important discussions of service levels, and the inevitable tradeoffs between these service levels and cost to taxpayers.

In chapter VI of this report we described the insurance industry's ISO rating system as one measure of fire and EM system quality. We cannot develop ISO ratings for each alternative in Exhibit VII-1, but we can caution Three City decision-makers that changes to the service arrangements will likely result in changes in ISO ratings. Currently, the Three Cities and the other urban areas served by the Gresham FES receive an ISO rating of 3. Shifting to an alternate service arrangement involving a mix of career and volunteer firefighters may quickly lower the ISO rating to a 5 or 6. Changes in service delivery configuration, equipment, personnel, and investment will all likelihood result in changes in insurance rates. While such rates affect homeowner property insurance rates, they are especially important for commercial and industrial businesses.

Alternative Details

To fully explain the potential and limitations of each alternative, we next detail out the features, assumptions and costs of each.

Alternative 0: Three Cities Open Fire and EM Service to Public Agency Competition

Alternative 0 is a procedural alternative rather than a program design alternative. Completion of the ten-year agreement between the Three Cities and the City of Gresham provides an opportunity to search for and consider alternate service providers and to make revisions to existing IGA provisions. To accomplish this alternative one of the Three Cities acting on behalf of the other two would need to conduct a formal procurement process for public sector providers (public-public competition). The process would include steps to: prepare and release a request for proposals document (RFP); detail steps to accept proposals; evaluate and rank proposals, negotiate a new agreement; finalize a new contract; and award a new contract in the form of an intergovernmental agreement.

As outlined in Chapter VI, a well-prepared, detailed RFP document should clearly detail the desired levels of service and performance, and personnel qualifications and certifications. The RFP should also specify a performance monitoring and enhancement system, and requirements for provider executive level communications with the elected officials and executive administrators of the Three Cities.

Should the cities accept a proposal from an entity other than the City of Gresham, the Three Cities would need to site and build one or more fire stations, which will incur capital costs similar to those in Alternatives 1A, 1B, 1C or 2. The location and capacity of these new stations represent long-term decisions because the useful life of these facilities would extend beyond the term of the next service contract. The Cities could define and frame proposals for either of two different service levels:

- **Option A:** Partner would provide all apparatus, equipment and personnel to operate the stations to deliver services.
- **Option B:** Partner would provide personnel to operate the stations and deliver services. One of the three cities would own the apparatus and equipment.

One of the Three Cities could also establish a city fire department that meets Oregon fire marshal standards, and provide fire marshal permitting, inspection and education services as a city function. The city fire department would also act as the administering department for a fire service contract.

Criteria to Encourage Interest and Competition

Simply floating a request for proposals does not ensure responses from other cities, fire districts, or even private nonprofit or commercial providers. **The isolated location of the Three Cities service area, surrounded by Gresham and natural boundaries, may result in limited responders to any RFP for fire and EM services.** Chief Duyck (personal communication, Sept. 24, 2013) of the Tualatin Valley Fire & Rescue special district indicated that: 1) operational, 2) financial and 3) political factors typically structure the decision by a provider to enter into a service agreement.

- **Operational considerations** include how the provider would operationally provide the services. That is, could and how would the provider deliver service to Three Cities residents? This includes, the ownership and ready availability of apparatus and equipment, the level of staffing and staff performance, and whether the provider can draw on nearby resources from their home service area. The RFP could define the minimal resources and service capacity for a residential or commercial fire initial

attack, and define minimal criteria for task force and multi-alarm fires, secondary level Hazmat, and secondary rescue.

- **Financial considerations** ask whether the available or potential revenues will cover the cost of providing the requested services. Property tax revenues typically provide most or all of the revenue for fire and EM services. One aspect of the equation is whether under Oregon’s property tax system rising assessed values would increase potential future revenues. A potential provider would consider the revenues needed to cover operating costs, capital costs and any transition costs.
- **Political considerations** ask whether the purchasing jurisdiction is ready for a partner to provide fire and EM services. This includes the city council, city manager, and staff attitudes, and political relationships with neighboring districts, especially involving mutual aid arrangements. Providers may wish to undertake a shorter-term multi-year contract with an escape clause as a means to assess the effectiveness and durability of a service relationship.

Variation on the Alternative: Public/Private Competition

Alternative 0 is designed as a public competition to provide services to the Cities. Opening the RFP to include nonprofit and for-profit commercial organizations may reveal organizations that can provide services at lower costs. This may be a positive option for the Three Cities, but how nonprofit and commercial providers relate politically to municipal mutual aid partners and neighboring jurisdictions presents an unknown risk.

Desired Level of Service and Quality

Alternative 0 calls for revisions to the procurement process for fire and EM services. This could include holding a procurement competition for public agency providers. The Three Cities should carefully prepare a request for proposals (RFP) that fully details their expectations of products, services, performance and risk management. An RFP should include descriptions for:

Coverage and Response Times: A request for proposals (RFP) must include performance outcome criteria for call for service response times under all times of day and traffic conditions. We defined such criteria in chapter IV above. Standards for service response times should comply with published standards. Exhibit VII-2 provides additional rationale for each outcome standards.

Exhibit VII-2

Policy Criteria	Response Time
American Heart Association chain of survival	Within 4 minutes: initial CPR and defibrillation BLS Within 8 minutes or less: advanced life support ALS
NFPA 1710	4 minutes or less 90% of total calls
Paramedic 12-lead ECG, oxygen and medications (TVF&R 2008)	Within 6 minutes

Overlapping Calls and System Reliability: Additionally, a provider must ensure system reliability to cover two or more simultaneous responses.

Depth of Response Capacity: A request for proposals should also define outcome criteria describing desired service quality and outcomes the provider will deliver.

- For EM calls, the certificate and training level of staff (paramedic ALS or basic life support BLS EMT), a recommended percentage of staff with each level of certification, recommended equipment and number of vehicles and specifications, compliance with Multnomah County first responder directives, activity and program performance requirements. Additionally, the RFP should describe EM performance reporting procedures.
- For fire calls, the RFP defines the minimal levels of personnel, training and certification, equipment and apparatus. The RFP should request training, safety and wellness plans with specified performance outcomes. For coordination and planning purposes, the RFP should also prescribe a sufficient level of sustained secondary service capacity to handle a task force or multi-alarm residential, commercial or industrial fire. The criteria also set the conditions under which the provider would call for mutual aid from surrounding departments. The RFP should also contain similar capacity criteria for Hazmat, confined space rescue, high angle rescue, water rescue and other complex service situations
- For fire calls, outcome criteria could specify the expected outcomes for each type of fire or service incident, e.g. fire extinguished with minimal property damage and loss of life; fire contained and did not spread; post fire clean-up fully and promptly accomplished; ignition evidence and forensics identified and protected; firefighters returned without injury; public protected from injury; etc.
- As a means to compare providers, an RFP could define a series of common service situations and request that the potential provider describe in detail how the situation would be handled, and to what performance outcomes and standards.
- An RFP would also request provider estimates of the costs necessary to provide fire and EM services to the Cities. In their proposals, providers could measure themselves against cost benchmarks. For example, the Canby Fire District #62 relies on a tax levy rate of \$1.8356/ \$1,000 assessed value. Similarly, the Tualatin Valley Fire and Rescue district levies a rate of \$1.78/ \$1,000. In comparison, the system-wide average cost of the Gresham FES is \$1.88/\$1,000.

Provision of Apparatus and Related Equipment: An RFP should also specify whether the provider would need to provide their own apparatus, or to simply operate the Cities' apparatus. If Option 7A were selected, the Cities would need to provide guidance on the type and performance criteria for apparatus. If Option 7B were selected, the Cities would need to purchase and outfit sufficient apparatus to meet service area needs. Based on Alternatives 1 and 2, these apparatus and equipment capital costs would be approximately:

Alternative 0 Capital Costs

2 new pumper engines	\$950,000	\$470,000 per engine (truck and basic equipment) on recent GFES joint purchase with City of Eugene
1 refurbished pumper engine	\$350,000	
2 medium-duty EMS/ service call trucks	\$200,000	
	\$1,500,000	

Although Cities' provision of the apparatus and related equipment would cost about \$1.5 million initially, Cities' ownership would provide flexibility for Cities' operation with in-house crews in the future. If the Cities elected not to provide apparatus and equipment, providers would need to include such costs in a proposal for services.

Alternative 1A: Two-Station with 4-Person, In-house Career Staffing

General Description

Establish an independent fire and EM service response as a public function of the three City governments. The service would be established under State of Oregon rules allowing cities to provide fire suppression and prevention (Fire Marshal) services. Personnel would be employees of one or several of the cities, receiving salaries and benefits. This alternative would maintain or establish two fire stations to provide service to the Three City service area. With four-person staffing at each station, which could be further divided into 2-person crews, this alternative would have a relatively high level of flexibility for EM service response. Dividing the staff into two-person crews may limit effective response during multiple fire calls.

The system would maintain a certification in, and equipment for, water and river rescue. Example jurisdiction is the City of Portland, which uses a four-person crew on an engine.

This alternative calls for:

- Two fire stations owned and operated by one city as a city department.
- Apparatus Station 1: 2 engines (one new & one refurbished reserve), 1 medium duty response truck
- Apparatus Station 2 (current Station 75): 1 engine, 1 medium duty response truck, 1 water rescue boat/trailer
- Receive mutual aid for additional engines, specialized apparatus (ladder truck) and crews (heavy rescue, Hazmat)
- Staff each stations with 4 career firefighter/ paramedic ALS positions
- All firefighters on 24/48 Kelly day schedule of 3 shifts
- At least 50% firefighters certified as paramedics ALS
- System configuration is tilted to favor EM service performance at the expense of fire call response.
- **System Reliability EM Services:** 4 two-person EM services crews
- **System Reliability Fire:** Four or six person fire response, but may require delayed response from cross-town station
- **Task Force Major Fire:** All on duty firefighters = 8, 2=executives on-call, 4-6 off-duty on-call firefighters = 14-16. Request mutual aid for additional engines or other apparatus.
- **Administrative Staffing:** Executive/ administrative: 3 position top row: Chief, Operations Captain, Deputy Chief/Fire Marshal. Business and public affairs handled by city central services.
- No volunteers or student interns

- Continue to staff the current Station 75
- **New Station:** Site and construct a new station the vicinity of NE 238th Dr. and I-84.
- **FTEs:** 3 senior exec/admin, 24 firefighter shifts, 3 supplemental firefighters = 30FTEs
- **Financing:** Provide service for levy rate of \$2.45/ \$1,000.
- **Financing:** Capital bond levy of \$4.57 million.

Staffing Configuration

Two-Station with 4-Person, City Department with Professional Staffing				
		Citizens and Council		Kelly Career
				Administrator 8hr
		City Manager		
		Fire Chief (1)		
	Ops Capt (1)	Bus Mgr (1 FTE) (City Staff)	Fire Marshal (1)	Public Affairs (City Staff)
Pos	A Shift: Station 1		B Shift: Station 1	C Shift: Station 1
1	Sta 1 Lt 24/48		Sta 1 Lt 24/48	Sta 1 Lt 24/48
1	Sta 1 App Op 24/48		Sta 1 App Op 24/48	Sta 1 App Op 24/48
1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48
1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48
	A Shift: Station 2		B Shift: Station 2	C Shift: Station 2
1	Sta 1 Lt 24/48		Sta 1 Lt 24/48	Sta 1 Lt 24/48
1	Sta 1 App Op 24/48		Sta 1 App Op 24/48	Sta 1 App Op 24/48
1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48
1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48

Service Package Criteria

This alternative would provide the resources to meet the following service call types (e.g. TVF&R 2008, 5-49):

Call Type	Service Response
EM Services Calls	
EM Services (single patient severe or unknown) Priorities 1, 3 & 9	1 truck or engine (2-person crew 1ALS & 1BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Services (multiple patients severe injuries) Priorities 1, 3 & 9	1 unit per patient. Up to a maximum of 4 patients/units: 1 truck or engine (2-person crew 1ALS & 1BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Services (multiple patients minor injuries) BoEC Priorities 3 & 9	1 unit per up to 3 patients 1 truck or engine (2-person crew 1ALS & 1BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
Fire Service Calls	
Public Service	1 Truck (2)
Alarm System Activation	1 Unit—Truck or Engine (2)
Non-structure Fire	1 Engine (2 or 4)
Residential Fire or Unknown: Initial Attack: Task Force: 1st Alarm or more:	1 Truck, 1 Engine (6) OR 2 Engines (4), 1 ambulance 1-2 Trucks, 2-3 Engines (8), 1-2 command 1-2 Trucks, 3 Engines (12-14 add on-calls), 1-2 command, mutual aid coverage as needed Mutual aid (additional engine with 3-4 each)
Commercial Fire Initial Attack: Task Force or 1st Alarm or more:	1-2 Trucks, 2-3 Engines (6-8), 1-2 command, 2 ambulances 1-2 Trucks, 3 Engines (12-14 add on-calls), 1-2 command, mutual aid coverage as needed Mutual aid (additional engines with 3 or 4 each, ladder truck with 3-4)
Large High Occupancy Building Initial Attack: 1st Alarm: 2nd Alarm or more:	1-2 Trucks, 2-3 Engines (6-8), 1-2 command, 2 ambulances 1-2 Trucks, 3 Engines (12-14 add on-calls), 1-2 command, 2 ambulances, mutual aid coverage as needed Mutual aid (4+ engines, ladder truck and support vehicles)
HazMat Incident Initial Response 1st Alarm or more	1 Truck, 1 Engine (4), 1 ambulance 1 Truck, 2 Engines (8), GFES/ state HazMat Team, mutual aid
Technical Rescue Incident Initial Response/ Light Rescue Heavy Rescue	1 Truck, 1 Engine (4), 1 ambulance 1 Truck, 2 Engines (8), mutual aid heavy rescue, 1 private ambulance
Water Rescue Incident Initial Response	1 Truck/water rescue unit (2), 1 Engine (4) 1 ambulance

This arrangement is designed to give preference to EM response using two-person crews dispatched either in a medium duty truck or in an engine (pumper). EM service response includes priority 1 immediate response, and priority 3 and 9 prompt response calls. The alternative also provides for immediate response and initial attack on fire calls. This configuration provides for residential, commercial and large high occupancy fire initial attack, with a minimum level of supplemental personnel to complete the fire suppression and clean-up tasks. Depending on the numbers of off-duty personnel available, this alternative could field 14-16 personnel on a major event. Activating off-duty personnel would result in overtime payments. In contrast, TVF&R allocates 18-24 personnel for a major residential fire, and 23-29 personnel for a major commercial fire. To reach these levels of staffing, the Three Cities department would need to call extensively on mutual aid help.

This configuration provides for initial response on for 1st level hazardous materials (Hazmat), light and medium level rescue, and water rescue. The configuration relies on mutual aid for any services above the initial level: 1st Alarm structure fire, 2nd level Hazmat services as the designated response unit, technical rescue in confined space rescue, high angle rescue, urban search and rescue, and chemical, biological, radiological, nuclear, explosive response (CBRNE) in a mass casualty incident (Gresham FES 2012-2013 budget).

System Reliability and Coverage

As a self-contained service area, Alternative 1A uses a two-station, 2-person crew strategy to ensure timely incident call response and resiliency depth to system resources. Response coverage must reach to the southeast Troutdale neighborhoods, to north Fairview above I-84 including the far north Columbia River and Blue Lake parks, southwest to Salish Ponds and Reynolds Middle School, and to the Wood Village hotspot service area. Units must reach the incident within 4 minutes for full response time performance. Four (4) to 6 minute response times provide an adequate response time for priority 1 EM service and initial attack fire. To cover all points and call hotspots in the service area, the system is best divided into two call management areas:

- Wood Village north and west (Station 1)
- Troutdale, east and southeast (Station 2, current Station 75)

As with the current stations 74 and 75, extended travel times prevent rapid cross jurisdiction coverage within a 4 to 6 minute response time. Thus, to ensure reliability, the alternative requires sufficient positions at each station to staff two vehicles. When necessary, the BoEC dispatcher could instruct open units to a move-up standby status at a centrally located position to reduce long distance response times.

Analysis of call data indicates that coincident, overlapping service calls occur in 21% of all calls in the Three Cities service area. System reliability must respond to these overlapping calls. Preliminary data indicate that three simultaneous calls do occur, but only about once a month.

Mutual Aid Contribution

Alternative 1A provides a minimal opportunity for contributing mutual aid to other surrounding jurisdictions. This contribution includes:

- 1 engine with a 3-person crew
- 1 response truck with a 2-person crew

Providing one vehicle with a 2 or 3-person crew would use up all slack in the supplemental personnel. Without these supplemental staff, no other firefighters could take sick leave,

vacation time or leave their shift for training. A Three Cities department could not operate on a sustained basis while contributing mutual aid.

Operating Costs

Alternative 1A annual operating costs provide for a total of 30 FTEs. These positions include 3 FTEs of senior executive positions on 40hr/wk shifts, and 27 FTEs of firefighters on Kelly day shifts (24hrs on/ 48hrs off, 53hr work week).

Alternative 1A Operating Costs

Personnel Services (Wages and Benefits)	\$3,780,000
Materials and Supplies, Professional Services, Internal Service Charges, and Capital Purchases	971,310
Property Services	\$21,240
Capital Outlay and Annual Capital Maintenance	\$26,856
Department Total	\$ 4,799,406
Ave. Cost per Station	\$ 2,399,703
Per \$1,000/ AV Rate	\$2.4478

Alternative 1A: Capital Costs

Station 2 Earthquake retrofit Station 75	\$170,000	Based on similar costs for recent GFES Station 72 earthquake retrofit.
Planning, site acquisition, and design for Station 1 in Wood Village area	\$500,000	Based on 2012-2013 RFPD 10 rebuild of GFES Station 76 (rural) @ \$398,500
Construction of new Station 1	\$2,400,000	Based on 2013-2014 RFPD10 rebuild of Station 76 @ \$2,390,000
2 new pumper engines	\$950,000	\$470,000 per engine (truck and basic equipment) on recent GFES joint purchase with City of Eugene
1 refurbished engine	\$350,000	
2 medium-duty EMS/ service call trucks	\$200,000	
Total capital cost estimate	\$4,570,000	

Financial Constraints

Alternative 1A is designed to demonstrate the full cost of an in-house department of two-stations with career personnel. To cover the full operational costs of \$4.799 million, the residents of Troutdale, Fairview and Wood Village would need to adopt a property tax rate of: \$2.45/\$1,000 assessed value. In addition, this alternative would also require a \$4.57 million capital bond measure for facility reconstruction, construction, vehicles and fire suppression apparatus (engines and durable equipment).

Off-duty shifts provide a reserve of firefighters. However, calling on these individuals to fight a major fire will result in overtime costs. Accumulated over the course of a fiscal year, these costs could be substantial.

Fire Marshal Services

This alternative would perform fire marshal and other prevention services as an in-house function. The Deputy Chief would perform fire marshal duties up to 0.5 FTE. The Deputy Chief's remaining hours would be allocated to shift command, administrative and training.

Alternative 1B: Two-Station with 3-Person, In-house Career Staffing

General Description

Establish an independent fire and EM service response as a function of the three City governments. The service would be established under State of Oregon rules allowing cities to provide fire suppression and prevention (Fire Marshal) services. Personnel would be employees of one or several of the cities, receiving wages, health and retirement benefits. This alternative would maintain or establish two fire stations to fully cover the Three City service area. With 3-person staffing at each station and only two stations in the system, this alternative would have a relatively poor level of flexibility for EM service response. This lack of flexibility and reliability reflects the lack of multiple stations and system depth that the Gresham system currently provides. Additionally, national standards for fire initial attack require a 4-person crew. Meeting this standard requires the dispatch of the crews at both stations at the same time to make an initial attack on a fire, or to enter a burning building. The system would maintain a certification in, and equipment for, water and river rescue. Example jurisdiction is the Gresham FES, although that system is much larger with greater capacity.

This alternative calls for:

- Two fire stations owned and operated by one city as a city department.
- Apparatus Station 1: 2 engines (one new & one refurbished reserve)
- Apparatus Station 2 (current Station 75): 1 engine, 1 water rescue boat/trailer
- Receive mutual aid for engines, specialized apparatus (ladder truck) and crews (heavy rescue, Hazmat)
- Staff each stations with 3 career firefighter/ paramedic ALS positions
- All firefighters on 24/48 Kelly day schedule of 3 shifts
- At least 66% firefighters certified as paramedics ALS
- **System Reliability EM Services:** 2, 3-person EM services crews
- **System Reliability Fire:** 6 person fire response, but may require delayed response from cross-town station
- **Task Force Major Fire:** All on duty firefighters = 6, 2=executives on-call, 4 off-duty on-call firefighters = 12. Request mutual aid for additional engines or other apparatus.
- **Administrative Staffing:** Executive/ administrative: 3 position top row: Chief, Operations Captain, Deputy Chief/Fire Marshal. Business and public affairs handled by city central services.
- No volunteers or student interns
- Continue to staff the current Station 75
- **New Station:** Site and construct a new station the vicinity of NE 238th Dr. and I-84.

- **FTEs:** 3 senior exec/admin, 18 firefighter shifts, 2.25 supplemental firefighters = 23.25FTEs
- **Financing:** Provide service for levy rate of \$2.03/ \$1,000.
- **Financing:** Capital bond levy of \$4.37 million.

Staffing Configuration

Alternative 1B: Two-Station with 3-Person, In-house Career Staffing						
			Citizens and Council			Kelly Career Administrator 8hr
			City Manager			
			Fire Chief (1)			
Admin/ Bus Mgr (1) or City Staff		Ops Capt (1)		Fire Marshal (1)		Public Affairs (City Staff)
	Pos .	A Shift: Station 1		B Shift: Station 1		C Shift: Station 1
	1	Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48
	1	Sta 1 App Op 24/48		Sta 1 App Op 24/48		Sta 1 App Op 24/48
	1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48		Sta 1 FF Para 24/48
		A Shift: Station 2		B Shift: Station 2		C Shift: Station 2
4 admin FTEs, 6 Kelly Positions	1	Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48
	1	Sta 1 App Op 24/48		Sta 1 App Op 24/48		Sta 1 App Op 24/48
	1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48		Sta 1 FF Para 24/48

Service Package Criteria

This alternative would provide the resources to meet the following service call types (e.g. TVF&R 2008, 5-49):

Call Type	Service Response
EM Services Calls	
EM Services (single patient severe or unknown) Priorities 1, 3 & 9	1 engine (3-person crew 2ALS & 1BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Services (multiple patients severe injuries) Priorities 1, 3 & 9	1 unit per patient. Up to a maximum of 2 patients/units: 1 engine (3-person crew 2ALS & 1BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS) More than two calls, invoke mutual aid from either private ambulance or another fire system.
Fire Service Calls	
Public Service	1 Engine (3)
Alarm System Activation	1 Engine (3)
Non-structure Fire	1 Engine (3)
Residential Fire or Unknown: Initial Attack: Task Force: 1st Alarm or more:	2 Engines (6), 1 ambulance 2-3 Engines (6), 1-2 command, up to 6 off-duty on-call, mutual aid coverage as needed Mutual aid (additional engine with 3-4 each)
Commercial Fire Initial Attack: Task Force or 1st Alarm or more:	2-3 Engines (6), 1-2 command, 6 off-duty on-call, 2 ambulances 3 Engines (all remaining available off-duty), 2 command, mutual aid coverage as needed Mutual aid (additional engines with 3 or 4 each, ladder truck with 3-4)
Large High Occupancy Building Initial Attack: 1st Alarm: 2nd Alarm or more:	2-3 Engines (6), 1-2 command, 6 off-duty on-call, 2 ambulances 3 Engines (all remaining off-duty on-calls), 1-2 command, 2 ambulances, mutual aid coverage as needed Mutual aid (4+ engines, ladder truck and support vehicles)
HazMat Incident Initial Response	1 Engine (3), 1 ambulance

1st Alarm or more	2 Engines (6), GFES/ state HazMat Team, mutual aid
Technical Rescue Incident Initial Response/ Light Rescue Heavy Rescue	1 Engine (3), 1 ambulance 2 Engines (6), mutual aid heavy rescue, 1 private ambulance
Water Rescue Incident Initial Response	1 Engine (3), 1 Truck/water rescue unit, 1 ambulance

Alternative 1B provides a reduced level of EM service response for priority 1 immediate response, and priority 3 and 9 prompt response calls. The alternative also provides for immediate response and initial attack on fire calls. This configuration provides for residential, commercial and large high occupancy fire initial attack with 6 firefighters, but with a very minimum level of supplemental personnel to complete the fire suppression and clean-up tasks. Depending on the numbers of off-duty personnel available, this alternative could field 12-14 personnel on a major event. Activating off-duty personnel would result in overtime payments. In contrast, TVF&R allocates 18-24 personnel for a major residential fire, and 23-29 personnel for a major commercial fire. To reach these levels of staffing, the Three Cities department would need to call extensively on mutual aid help.

This configuration provides for initial response on for 1st level hazardous materials (Hazmat), light and medium level rescue, and water rescue. The configuration relies on mutual aid for any services above the initial level: 1st Alarm structure fire, 2nd level Hazmat services as the designated response unit, technical rescue in confined space rescue, high angle rescue, urban search and rescue, and chemical, biological, radiological, nuclear, explosive response (CBRNE) in a mass casualty incident (Gresham FES 2012-2013 budget).

System Reliability and Coverage

As a self-contained service area, Alternative 1B uses a two-station strategy to ensure timely incident call response and resiliency depth to system resources. Response coverage must reach to the southeast Troutdale neighborhoods, to north Fairview above I-84 including the far north Columbia River and Blue Lake parks, southwest to Salish Ponds and Reynolds Middle School, and to the Wood Village hotspot service area. Units must reach the incident within 4 minutes for full response time performance. Four (4) to 6 minute response times provide an adequate response time for priority 1 EM service and initial attack fire. To cover all points and call hotspots in the service area, the system is best divided into two call management areas:

- Wood Village north and west (Station 1)
- Troutdale, east and southeast (Station 2, current Station 75)

As with the current stations 74 and 75, extended travel times prevent rapid cross jurisdiction coverage within a 4 to 6 minute response time. Thus, to ensure reliability, the alternative requires sufficient positions at each station to staff two vehicles. When necessary, the BoEC dispatcher could instruct the remaining open unit to a move-up standby status at a centrally located position to reduce long distance response times.

Analysis of call data indicates that coincident, overlapping service calls occur in 21% of all calls in the Three Cities service area. System reliability must respond to these overlapping calls. Preliminary data indicate that three simultaneous call do occur, but only about once a month. The limitations of the 3-person crew arrangement become evident in limited system

resiliency. Both crews are needed for a residential, commercial, or institutional fire, which empties both stations. Activating off-duty personnel is the primary way to cover this shortfall, but this generates overtime charges.

Mutual Aid Contribution

Alternative 1B provides a minimal opportunity for contributing mutual aid to other surrounding jurisdictions. This contribution includes:

- 1 engine with a 2-person crew

Providing one vehicle with a 2-person crew would use up all slack in the supplemental personnel. Without these supplemental staff, no other firefighters could take sick leave, vacation time or leave their shift for training. A Three Cities department could not operate on a sustained basis while contributing mutual aid.

Operating Costs

Alternative 1B annual operating costs provide for a total of 23.25 FTEs. These positions include 3 FTEs of senior executive positions on 40hr/wk shifts, and 20.25 FTEs of firefighters on Kelly day shifts (24hrs on/ 48hrs off, 53hr work week).

Alternative 1B Operating Costs

Personnel Services (Wages and Benefits)	\$2,929,500
Materials and Supplies, Professional Services, Internal Service Charges, and Capital Purchases	971,310
Property Services	\$21,240
Capital Outlay and Annual Capital Maintenance	\$26,856
Department Total	\$ 3,948,906
Ave. Cost per Station	\$ 1,974,453
Per \$1,000/ AV Rate	\$2.03

Alternative 1B Capital Costs

Station 2 Earthquake retrofit Station 75	\$170,000	Based on similar costs for recent GFES Station 72 earthquake retrofit.
Planning, site acquisition, and design for Station 1 in Wood Village area	\$500,000	Based on 2012-2013 RFPD 10 rebuild of GFES Station 76 (rural) @ \$398,500
Construction of new Station 1	\$2,400,000	Based on 2013-2014 RFPD10 rebuild of Station 76 @ \$2,390,000
2 new pumper engines	\$950,000	\$470,000 per engine (truck and basic equipment) on recent GFES joint purchase with City of Eugene
1 refurbished engine	\$350,000	
Total capital cost estimate	\$4,370,000	

Financial Constraints

Alternative 1B is designed to demonstrate the cost savings of shifting from a 4-person crew to a 3-person crew. All other costs are identical to Alternative 1A. To cover the full cost of \$3.95 million, the residents of Troutdale, Fairview and Wood Village would need to adopt a property tax rate of: \$2.03/\$1,000 assessed value. In addition, the alternative would also require a \$4.37 million capital bond measure for facility reconstruction, construction, vehicles and fire suppression apparatus (engines and durable equipment).

Off-duty shifts provide a reserve of firefighters. However, calling on these individuals to fight a major fire will result in overtime costs. Accumulated over the course of a fiscal year, these costs could be substantial.

Fire Marshal Services

This alternative would perform fire marshal and other prevention services as an in-house function. The Deputy Chief would perform fire marshal duties up to 0.5 FTE. The Deputy Chief's remaining hours would be allocated to shift command, administrative and training.

Alternative 1C: Two-Station with 3-Person + 12hr Shift, In-house Career Staffing

General Description

Establish an independent fire and EM service response as a public function of the three City governments. The service would be established under State of Oregon rules allowing cities to provide fire suppression and prevention (Fire Marshal) services. Personnel would be employees of one or several of the cities, receiving salaries and benefits. This alternative would maintain or establish two fire stations to provide service to the Three City service area. A larger Station 1 would receive career 3-person staffing with an additional peak demand 12hr shift, while Station 2 would be staffed by a career 3-person crew. This alternative would greatly enhance the dispatch flexibility of the 3-person base crews, greatly improve call response times, and provide critical resources toward a reliable system. Effective example: Tualatin Valley Fire & Rescue 2010 Deployment Changes (TVFR 2010).

This alternative calls for:

- Two fire stations owned and operated by one city as a city department.
- Apparatus Station 1: 2 engines (one new & one refurbished reserve), 1 medium duty response truck
- Apparatus Station 2 (current Station 75): 1 engine, 1 water rescue boat/trailer
- Receive mutual aid for additional engines, specialized apparatus (ladder truck) and crews (heavy rescue, Hazmat)
- Station 1 is staffed with 3 career firefighter/ paramedic ALS positions on 24/48 Kelly shifts, supplemented during the daytime peak demand period (9am-9pm) by 2 firefighter positions on a 12hr shift.
- Station 2 is staffed with 3 career firefighter/ paramedic ALS positions on Kelly shifts.
- At least 30% firefighters certified as paramedics ALS
- **System Reliability EM Service:** Two 3-person EM services crews and one 2-person peak crew.
- **System Reliability Fire:** 5-6 person fire response, but may require delayed response from cross-town station when two 3-person engines combined.
- **Task Force Major Fire:** All on duty firefighters = 6-8, 2=executives on-call, 4-6 off-duty on-call firefighters = 10-16. Request mutual aid for additional engines or other apparatus.
- **Administrative Staffing:** Executive/ administrative: 3 position top row: Chief, Operations Captain, Deputy Chief/Fire Marshal. Business and public affairs handled by city central services.
- No volunteers or student interns
- Continue to staff the current Station 75
- **New Station:** Site and construct a new station the vicinity of NE 238th Dr. and I-84.

- **FTEs:** 3 senior exec/admin, 20.25 FTE Kelly firefighters in 3 shifts, 4.5 FTEs 12hr peak demand firefighters = 27.75FTEs
- **Financing:** Provide service for levy rate of \$2.30/ \$1,000.
- **Financing:** Capital bond levy of \$4.47 million.

Staffing Configuration

Alternative 1C: Two-Station with 3-Person + 12hr Shift, In-house Professional Staffing					
			Citizens and Council		Kelly Career Administrator 8hr
			City Manager		12hr Career
			Fire Chief (1)		
Admin/ Bus Mgr (1) or City Staff		Ops Capt (1)		Fire Marshal (1)	Public Affairs (City Staff)
4 admins, 6 Kelly Pos, 2 12hr Positions	Pos .	A Shift: Station 1		B Shift: Station 1	C Shift: Station 1
	1	Sta 1 Lt 24/48		Sta 1 Lt 24/48	Sta 1 Lt 24/48
	1	Sta 1 App Op 24/48		Sta 1 App Op 24/48	Sta 1 App Op 24/48
	1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48
	1	Sta 1 FF App Op 9-9day		Sta 1 FF App Op 9-9day	Sta 1 FF App Op 9-9day
	1	Sta 1 FF Para 9-9day		Sta 1 FF Para Op 9-9day	Sta 1 FF Para Op 9-9day
		A Shift: Station 2		B Shift: Station 2	C Shift: Station 2
	1	Sta 1 Lt 24/48		Sta 1 Lt 24/48	Sta 1 Lt 24/48
	1	Sta 1 App Op 24/48		Sta 1 App Op 24/48	Sta 1 App Op 24/48
	1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48	Sta 1 FF Para 24/48

Service Package Criteria

This alternative would provide the resources to meet the following service call types (e.g. TVF&R 2008, 5-49):

Call Type	Service Response
EM Services Calls	
EM Service (single patient severe or unknown) Priorities 1, 3 & 9	1 truck or engine (2-3 person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Service (multiple patients severe injuries) Priorities 1, 3 & 9	1 truck or engine unit per patient. Up to a maximum of 3 patients/units: 1 truck or engine (2-3person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Service (multiple patients minor injuries) BoEC Priorities 3 & 9	1 unit per up to 3 patients 1 truck or engine (2-3 person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
Fire Service Calls	
Public Service	1 Truck (2-3)
Alarm System Activation	1 Unit—Truck or Engine (2-3)
Non-structure Fire	1 Engine (3)
Residential Fire or Unknown: Initial Attack: Task Force: 1st Alarm or more:	>1 Truck & 1 Engine (5) OR 2 Engines (6), 1 ambulance >1 Truck, 2-3 Engines (6-8), (4-6 off-duty, on-call), 1-2 command (11-16) >3 Engines (all available off-duty on-calls), 1-2 command, mutual aid coverage as needed Mutual aid (additional engine with 3-4 each)
Commercial Fire Initial Attack: Task Force or 1st Alarm or more:	1 Truck, 2-3 Engines (6-8), 1-2 command, 2 ambulances 3 Engines (4-6 add off-duty on-calls), 1-2 command, mutual aid coverage as needed Mutual aid (additional engines with 3 or 4 each, ladder truck with 3-4)
Large High Occupancy Building Initial Attack: 1st Alarm: 2nd Alarm or more:	>1 Truck, 2-3 Engines (6-8), 1-2 command, 2 ambulances >3 Engines (4-6 add on-calls), 1-2 command, 2 ambulances, mutual aid coverage as needed >Mutual aid (4+ engines, ladder truck and support vehicles)

HazMat Incident Initial Response 1st Alarm or more	>1 Truck, 1 Engine (5) OR 2 Engines (6), 1 ambulance >1 Truck, 2 Engines (6-8), GFES/ state HazMat Team, mutual aid
Technical Rescue Incident Initial Response/ Light Rescue Heavy Rescue	>1 Truck, 1 Engine (5) OR 2 Engines (6), 1 ambulance >1 Truck, 2 Engines (6-8), mutual aid heavy rescue, 1 private ambulance
Water Rescue Incident Initial Response	1 Truck/water rescue unit (2), 1 Engine (3) OR 2 Engines (6), 1 ambulance

This alternative relies heavily on providing additional response capacity only during daily peak hours (Exhibit IV-6). This arrangement is designed to increase system flexibility and reliability, and to decrease EM services response times at daily periods of peak demand. The addition of a 2-person 12hr crew also provides 5 firefighters, which can enter burning buildings during fire initial attack. EM service runs will receive either a 2-person response truck, or a 3-person engine. However, during non-peak hours, system reliability for initial attack fire calls is greatly reduced because the only response is a 3-person engine. Further, the second engine may need to travel an extended distance to reach the fire scene.

This configuration provides for residential, commercial and large high occupancy fire initial attack, with a minimum level of supplemental personnel to complete the fire suppression and clean-up tasks. Depending on the numbers of off-duty personnel available, this alternative could field 13-15 personnel on a major event. Activating off-duty personnel would result in overtime payments. In contrast, TVF&R allocates 18-24 personnel for a major residential fire, and 23-29 personnel for a major commercial fire. To reach these levels of staffing, the Three Cities department would need to call extensively on mutual aid help.

This configuration provides for initial response on for 1st level hazardous materials (Hazmat), light and medium level rescue, and water rescue. The configuration relies on mutual aid for any services above the initial level: 1st Alarm structure fire, 2nd level Hazmat services as the designated response unit, technical rescue in confined space rescue, high angle rescue, urban search and rescue, and chemical, biological, radiological, nuclear, explosive response (CBRNE) in a mass casualty incident (Gresham FES 2012-2013 budget).

System Reliability and Coverage

As a self-contained service area, Alternative 1C uses the strategy of a combined two-station, 2-person crew and peak period crew to ensure timely incident call response and resiliency depth to system resources. Response coverage must reach to the southeast Troutdale neighborhoods, to north Fairview above I-84 including the far north Columbia River and Blue Lake parks, southwest to Salish Ponds and Reynolds Middle School, and to the Wood Village hotspot service area. Units must reach the incident within 4 minutes for full response time performance. Four (4) to 6 minute response times provide an adequate response time for priority 1 EM service and initial attack fire. To cover all points and call hotspots in the service area, the system is best divided into two call management areas:

- Wood Village north and west (Station 1)
- Troutdale, east and southeast (Station 2, current Station 75)

As with the current stations 74 and 75, extended travel times prevent rapid cross jurisdiction coverage within a 4 to 6 minute response time. Thus, to ensure reliability, the alternative provides sufficient positions at Station 1 to staff two vehicles. When necessary, the BoEC dispatcher could instruct open units to a move-up standby status at a centrally located position to reduce long distance response times.

Analysis of call data indicates that coincident, overlapping service calls occur in 21% of all calls in the Three Cities service area. System reliability must respond to these overlapping calls. Preliminary data indicate that three simultaneous call do occur, but only about once a month.

Mutual Aid Contribution

Alternative 1C provides a very minimal opportunity for contributing mutual aid to other surrounding jurisdictions. This contribution includes:

- 1 engine with a 2-person crew
- 1 response truck with a 2-person crew

Providing one vehicle with a 2-person crew would use up most of the personnel slack in the supplemental personnel. Without these supplemental staff, no other firefighters could take sick leave, vacation time or leave their shift for training. A Three Cities department could not operate on a sustained basis while contributing mutual aid.

Operating Costs

Alternative 1C annual operating costs provide for a total of 27.75 FTEs. These positions include 3 FTEs of senior executive positions on 40hr/wk shifts, and 20.25 FTEs of firefighters on Kelly day shifts (24hrs on/ 48hrs off, 53hr work week), and 4.5 FTEs of firefighters on 12hr day shifts.

Alternative 1C Operating Costs

Personnel Services (Wages and Benefits)	\$3,496,500
Materials and Supplies, Professional Services, Internal Service Charges, and Capital Purchases	971,310
Property Services	\$21,240
Capital Outlay and Annual Capital Maintenance	\$26,856
Department Total	\$ 4,515,906
Ave. Cost per Station	\$ 2,257,953
Per \$1,000/ AV Rate	\$2.3032

Alternative 1C Capital Costs

Station 2 Earthquake retrofit Station 75	\$170,000	Based on similar costs for recent GFES Station 72 earthquake retrofit.
Planning, site acquisition, and design for Station 1 in Wood Village area	\$500,000	Based on 2012-2013 RFPD 10 rebuild of GFES Station 76 (rural) @ \$398,500

Construction of new Station 1	\$2,400,000	Based on 2013-2014 RFPD10 rebuild of Station 76 @ \$2,390,000
2 new pumper engines	\$950,000	\$470,000 per engine (truck and basic equipment) on recent GFES joint purchase with City of Eugene
1 refurbished engine	\$350,000	
2 medium-duty EMS/ service call trucks	\$200,000	
Total capital cost estimate	\$4,570,000	

Financial Constraints

To cover the full cost of \$4.515 million, the residents of Troutdale, Fairview and Wood Village would need to adopt a property tax rate of: \$2.30/\$1,000 assessed value. The cost of this alternative and its revenue needs are midway between those of Alternatives 1A and 1B. In addition, the alternative would also require a \$4.57 million capital bond measure for facility reconstruction, construction, vehicles and fire suppression apparatus (engines and durable equipment).

Off-duty shifts provide a reserve of firefighters. However, calling on these individuals to fight a major fire will result in overtime costs. Accumulated over the course of a fiscal year, these costs could be substantial.

Fire Marshal Services

This alternative would perform fire marshal and other prevention services as an in-house function. The Deputy Chief would perform fire marshal duties up to 0.5 FTE. The Deputy Chief's remaining hours would be allocated to shift command, administrative and training.

Alternative 2: One and a Half Stations with Volunteer/ Interns

Alternative 2 establishes an independent fire and EM service as a department within one of the three City governments. The service would be established under State of Oregon rules allowing cities to provide fire suppression and prevention (Fire Marshal) services. This alternative uses a mix of core career and volunteer/intern staffing to ensure response flexibility and system reliability. The alternative also uses half of the career positions on a full-time (Kelly day) 3-person crew, and uses the other half of career positions on a 12hr peak demand shifts. Combined together, these features reduce costs to make this a low cost alternative. On-call volunteers would provide personnel depth to the system during major incidents. The in-house location of the department would allow it to assign a deputy fire marshal as a city employee. This alternative is patterned after arrangements used by departments in small cities in rural service areas such as Canby, Boring and McMinnville.

This arrangement calls for:

- One main fire station owned and operated by the Cities as a city department.
- A satellite, part-time station for EM services in a cross-town location from the primary station.
- Apparatus Station 1: 3 engines, 1 medium duty response truck
- Apparatus Station 2 Satellite: 1 medium duty response truck
- Relies on mutual aid for specialized apparatus (ladder truck) and crews (heavy rescue, Hazmat)
- Staff: 9 career firefighter/ paramedics ALS/ operator positions for three Kelly day shifts=10FTEs.
- Staff: 3 career firefighter/ paramedic/ operator positions for 12hr peak demand shift= 6.5FTEs.
- Intern: 1 intern BLS 12hr night sleep in.
- Volunteers: 2 on call or sleep in volunteers on 24hr shifts
- Volunteers: 2-4 on reserve call.
- **System Reliability EM Service:** Two 2-4-person EM services crews and one 2-person peak EM services crew.
- **System Reliability Fire:** 4-6 person fire response, but may require delayed response from cross-town station.
- **Task Force Major Fire:** All on duty firefighters = 8, 2=executives on-call, 2-3 off-duty career firefighters, 2 on-call reserve volunteers = 14-15 total. Supplemented by 3-5 more secondary volunteers. Request mutual aid for additional engines or other apparatus.
- **Administrative Staffing:** Executive/ administrative: 4 position top row: Chief, Operations Captain, Training and Volunteer Coordinators, Deputy Chief/Fire Marshal. Business and public affairs handled by city central services.

- Close station 75 (too small capacity), and build a new larger capacity main fire station in the vicinity of Cherry Park Rd and NE 242nd Ave.
- Rent a 3-bedroom house on a major roadway in the vicinity of Fairview Ave either north or south of I-84. Remodel the house to increase earthquake reliability and to accommodate a medium duty response truck.
- **Financing:** Provide service for levy rate of \$1.73-1.99/ \$1,000.
- **Financing:** Capital bond levy of \$4.55 million.

Staffing Configuration

Alternative 2: One Main Station w/Satellite, Mixed Professional & Volunteer Staffing						
			Citizens and Council		10 FTE	Kelly Career
					4-5 FTE	Administrator 8hr
			City Manager		6.5 FTE	12hr 7day/2wk
					6-8	Volunteers/ Interns
			Fire Chief (1)			
Admin/ Bus Mgr (1) or City Staff		Ops Capt (1)		Fire Marshal (1)		Public Affairs (City Staff)
		Training and Volunteer Officer (1)				
	Pos	A Shift: Main Station		B Shift: Main Station		C Shift: Main Station
	1	Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48		Sta 1 Lt/ Para 24/48
	1	Sta 1 App Op 24/48		Sta 1 App Op 24/48		Sta 1 App Op 24/48
	1	Sta 1 FF Para 24/48		Sta 1 FF Para 24/48		Sta 1 FF Para 24/48
	1	Sta 1 FF App Op 9-9day		Sta 1 FF App Op 9-9day		Sta 1 FF App Op 9-9day
	1	Intern FF BLS 9-9pm Night		Intern FF BLS 9-9pm Night		Intern FF BLS 9-9pmNight
	2	2 Vol App Op/ FF/BLS 24/48 Night sleep in		2 Vol App Op/ FF/BLS 24/48 Night sleep in		2 Vol App Op/ FF/BLS 24/48 Night sleep in
		2 Vol FF BLS/Para on call		2 Vol FF BLS/Para on call		2 Vol FF BLS/Para on call

	Pos	A Shift: Satellite Station		B Shift: Satellite Station	C Shift: Satellite Station
	1	Sta 2 FF Para 9-9day		Sta 2 FF Para 9-9day	Sta 2 FF Para 9-9day
	1	Sta 2 FF Para 9-9day		Sta 2 FF Para 9-9day	Sta 2 FF Para 9-9day

Service Package Criteria

This alternative would provide the resources to meet the following service call types (e.g. TVF&R 2008, 5-49):

Call Type	Service Response
EM Services Calls	
EM Services (single patient severe or unknown) Priorities 1, 3 & 9	1 truck or engine (2-4 person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Services (multiple patients severe injuries) Priorities 1, 3 & 9	1 truck or engine unit per patient. Up to a maximum of 3 patients: 1 truck or engine (2-3person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
EM Services (multiple patients minor injuries) BoEC Priorities 3 & 9	1 unit per up to 3 patients 1 truck or engine (2-3 person crew 1ALS & 1-2BLS), and 1 private ambulance (2-person crew 1ALS & 1BLS)
Fire Service Calls	
Public Service	1 Truck (2-4)
Alarm System Activation	1 Unit—Truck or Engine (2-4)
Non-structure Fire	1 Engine (4)
Residential Fire or Unknown: Initial Attack: Task Force: 1st Alarm or more:	>1 Engine (4), 1 ambulance >2 Engines (6), (4-6 off-duty on-call and volunteers on-call), 1-2 command (11-14) >3 Engines (6-8) (all available off-duty on-calls, up to 6 volunteer secondary reserve), 1-2 command, mutual aid coverage as needed Mutual aid (additional engine with 3-4 each)
Commercial Fire Initial Attack: Task Force or 1st Alarm or more:	>2 Engines (6), (4-6 off-duty on-call and volunteers on-call), 1-2 command, 2 ambulances >3 Engines (6-8), (all available off-duty on-calls, up to 6 volunteer secondary reserve), 1-2 command, mutual aid coverage as

	needed Mutual aid (additional engines with 3 or 4 each, ladder truck with 3-4)
Large High Occupancy Building Initial Attack:	>1 Truck, 2 Engines (6-8), (4-6 off-duty on-call and volunteers on-call), 1-2 command, 2 ambulances
1st Alarm:	>3 Engines (6-8), (all available off-duty on-calls, up to 6 volunteer secondary reserve), 1-2 command, mutual aid coverage as needed
2nd Alarm or more:	Mutual aid (additional engines with 3 or 4 each, ladder truck with 3-4) >Mutual aid (4+ engines, ladder truck and support vehicles)
HazMat Incident Initial Response	>1 Engine (4), 1 ambulance
1st Alarm or more	>1 Truck &, 1-2 Engines (6-8), GFES/ state HazMat Team, mutual aid
Technical Rescue Incident Initial Response/ Light Rescue	>1 Engine (4), 1 ambulance
Heavy Rescue	>1 Truck, 2 Engines (6-8), mutual aid heavy rescue, 1 private ambulance
Water Rescue Incident Initial Response	1 Engine (4), 1 Truck (2), 1 ambulance

This alternative relies heavily on providing additional response capacity only when it is typically needed during the day. The satellite station 2 is staff by firefighter paramedics on 12hr day shifts. This is designed to improve EM services response times at daily periods of peak demand and in areas currently poorly served. The addition of a 2-person 12hr crew and a 2-person on-call volunteer crew provides two crews that can support the 3-person core professional crew for fire initial attack. In contrast to Alternative 1C, where 3-person crews limit system reliability in the non-peak hours, and intern and two on-call volunteers can provide non-peak response. However, the challenge with a one main station system is that response times to far corners of the service area increase during non-peak hours.

This configuration provides for residential, commercial and large high occupancy fire initial attack, with a minimum level of supplemental personnel to complete the fire suppression and clean-up tasks. Depending on the numbers of off-duty personnel available, this alternative could field 13-15 personnel on a major event. Activating off-duty personnel would result in overtime payments. In contrast, TVF&R allocates 18-24 personnel for a major residential fire, and 23-29 personnel for a major commercial fire. To reach these levels of fire incident staffing, the department would call on a secondary crew of volunteers. The department would need to use mutual aid for special equipment.

This configuration provides for initial response on for 1st level hazardous materials (Hazmat), light and medium level rescue, and water rescue. The configuration relies on mutual aid for any services above the initial level: 1st Alarm structure fire, 2nd level Hazmat services as the designated response unit, technical rescue in confined space rescue,

high angle rescue, urban search and rescue, and chemical, biological, radiological, nuclear, explosive response (CBRNE) in a mass casualty incident (Gresham FES 2012-2013 budget).

System Reliability and Coverage

This alternative uses the strategy of a large main station and a limited satellite station to ensure improved response across the full service area. The location of two stations becomes critical to meeting response times. A large main station must be positioned to respond to the southeast Troutdale neighborhoods, central Troutdale, Wood Village, and south Fairview. A small satellite station for rapid EM services response must effectively serve the service area north of I-84. This leads to placement of the stations as follows:

- Main station near Cherry Park Rd. and NE 238th Dr.
- Small satellite station near NE Sandy Blvd and the Fairview/Wood Village city line.

In this alternative, the main station has broad coverage of the service area south of I-84 for fire and EM services. The proposed location should reach the southeast Troutdale neighborhoods with satisfactory response times, but would likely be on the outside of an acceptable response time to the western border of Fairview and to the southwest corner of the Three-City service area. The weakness of this alternative is the limited fire service and secondary EM service north of I-84. The small substation with an EM service truck provides prompt rapid response north of I-84, but this single truck responds to a single call only and has no firefighting capability.

Current arrangements of stations 74 and 75 indicate simultaneous calls about 21% of the time. This arrangement provides some response to call overlap through the availability of two response trucks and up to three engines. Career EM services and volunteer firefighter crews enhance the depth and flexibility of the system.

Mutual Aid Contribution

Alternative 2 provides an opportunity for contributing mutual aid to other surrounding jurisdictions. This contribution includes:

- 1 engine with a 2-person crew or a
- 1 truck with a 2-person crew

Providing one vehicle with a 2-person crew would place pressure on the remaining resources and volunteer pool. Should volunteer firefighters wish to take a mutual aid assignment, the department may be able to contribute a 3-4 person engine. The reserve engine would be used for the mutual aid assignment.

Operating Costs

Annual operating costs can be estimated from current Gresham FES and Boring annual costs and FTEs. This alternative assumes personnel costs for the career firefighters. It also assumes on-duty insurance, reimbursement, and other benefits for the volunteer and intern positions.

Alternative 2 Operating Costs with Gresham Assumptions

Personnel Services (Wages and Benefits)	\$2,646,000
Intern & Volunteer Benefits and Reimbursement	\$196,748
Materials and Supplies,	

Professional Services, Internal Service Charges, and Capital Purchases	680,725
Property Services	\$21,240
Capital Outlay and Annual Capital Maintenance	\$26,856
Department Total	\$ 3,394,499
Per \$1,000/ AV Rate	\$1.7313

A note of caution on the above table of operating costs; the materials and supplies costs are based on Gresham FES costs for a single station of a larger system. This approach likely limits the internal service charges and other costs needed to run a department. Estimates based on Boring Fire District costs result in a contrasting estimate (next page below).

Alternative 2 Operating Costs with Boring Assumptions

Personnel Services (Wages and Benefits)	\$2,646,000
Intern & Volunteer Benefits and Reimbursement	\$196,748
Materials and Supplies, Professional Services, Internal Service Charges, and Capital Purchases	1,080,957
Property Services	\$126,000
Capital Outlay and Annual Capital Maintenance	\$50,650
Department Total	\$ 3,903,607
Per \$1,000/ AV Rate	\$1.9910

Alternative 2 Capital Costs

Remodel a rental house for a satellite station	\$50,000	\$50,000 remodel
Planning, site acquisition, and design for a new larger 5-6 bay main station.	\$500,000	Based on 2012-2013 RFPD 10 rebuild of GFES Station 76 (rural) @ \$398,500
Construction of new Main Station	\$2,500,000	Based on 2013-2014 RFPD10 rebuild of Station 76 @ \$2,390,000
2 new pumper engines	\$950,000	\$470,000 per engine (truck and basic equipment) on recent GFES joint purchase with City of Eugene
1 refurbished engine	\$350,000	
2 medium-duty EMS/ service call trucks	\$200,000	
Total capital cost estimate	\$4,550,000	

Financial Constraints

To cover the cost of Alternative 2, the residents of Troutdale, Fairview and Wood Village would need to adopt a property tax rate of between: \$1.73 and 1.99/\$1,000 assessed value. In addition, the alternative would also require a \$4.55 million capital bond measure for facility reconstruction, construction, vehicles and fire suppression apparatus (engines and durable equipment).

Volunteer Support

Alternative 2 makes a very major assumption that the Three Cities department can attract and retain the services of 20-30 volunteer and intern firefighters. In a rural environment, especially in those districts with an extended history of volunteer ambulance or fire services, generating a pool of volunteers has been successful. Boring, Sandy, Canby, Corbett and McMinnville districts and departments point to these successes. However, the Three Cities do not have the deep and extended traditions of these example departments. In the Three Cities urban area, numerous other family and community volunteer opportunities compete with fire department service. Attracting volunteers to fire service may be especially difficult because of the extensive time commitment and training required before full service. Further, unlike employers in small communities, employers in the Three Cities areas are likely less favorable to granting volunteer leave for fire service emergencies. Potential fire volunteers may work at work sites distant from the Three Cities' stations which prevents their contribution during day shifts or emergency incidents.

Regulatory Constraints

The prominent contribution of volunteer firefighters and interns in this alternative raises the extremely important issue of volunteer recruitment and management. Volunteers and interns present unique human resource regulatory issues that may be as complex as those for career employees. Internal Revenue Service (IRS) and Oregon Bureau of Labor and Industries (BOLI) enforcement have made it difficult for some fire departments to reimburse their employees. These regulatory enforcements have made it difficult for volunteer departments.

Human Resources Department Support

The issues of volunteer recruitment and regulatory support point to the need for professional attention to management and leadership of a fire department volunteer program. Alternative 2 includes an administrative position for a Training Officer and Volunteer Coordinator, and funds for support a volunteer recruitment and support program. The City Human Resource department must be fully engaged and devote resources for volunteer recruitment and management.

Fire Marshal Services

This alternative would perform fire marshal and other prevention services as an in-house function. The Deputy Chief would perform fire marshal duties up to 0.5 FTE. The Deputy Chief's remaining hours would be allocated to shift command, administrative and training.

Alternative 3: Establish a Three Cities Independent Fire/EM Services Special District to Contract for Services

This alternative would establish an independent, fire suppression and EM Services special district with boundaries coincident to the boundaries of the Three Cities. The district would procure services and administer the agreement or contract.

Features of this alternative include or require:

- Voters establish a special district with its own independent property taxing authority.
- **Revenue:** Voters adopt a permanent or supplemental tax levy to support the district. This may force property tax compression of the proposed levy and all other levies applicable to the Three Cities. However, there may be sufficient levy authority available to include a new district.
- **Revenue:** The district could levy a uniform rate of \$0.40 or \$0.50 per \$1,000 assessed value, OR each city could level a supplemental levy of between \$0.35 and \$0.56 to generate a uniform levy across all cities of \$1.85/ \$1,000.
- Voters must also adopt a capital bond levy to support facility development and equipment purchases by the new district.
- **Governance:** Several choices including: voter election of an independent board of directors; OR the board could consist of the 3 mayors from the Three Cities and 2 rotating city council members.
- Establishing a special district separates fire service funding stream independent from the general funds and tax revenues of the Three Cities.
- District could procure from Gresham FES, or open the procurement to competitive proposals from all public sector providers.
- **Option:** District would open the procurement of fire and EM services to any governmental, nonprofit or commercial providers.
- **Procurement:** The district must define the quantity and quality of services it expects under an agreement or contract, and use the procurement process to refine quality criteria.
- **Contract and Service Structure:** The district has options in how to structure the purchased services. The provider could operate district-owned apparatus, or the provider could provide all apparatus and services (Alternative 0 above).
- **Contract Provisions for Performance Improvement:** The provider must provide a performance enhancement plan and demonstrate its implementation through the contract services.
- **Contract Administration:** The district will require the provider to report program and process level performance data, key statistics, and per unit production costs as part of a comprehensive performance reporting and improvement plan.
- **Contract Administration:** The new contract should contain performance risk protections and performance remedies.

- The District would provide or procure fire marshal plan review, inspection and prevention services.
- **Capital Costs:** If the new district contracted with Gresham FES, the capital costs may remain minimal. If the new district contracts with another provider, the district may need to build a new fire station, and purchase apparatus and equipment as in Alternatives 1A-1C and 2 above.

Example District with Similar Features

The Riverdale Fire District 11JT near Lake Oswego provides an example of this type of small, special district that procures fire and EM services from an adjacent city or fire district. The Riverdale district contracts with the City of Lake Oswego for emergency fire and medical services. The district has a permanent levy rate of \$1.2361, and it is requesting that voters adopt a supplemental operating levy of \$.50 in November 2013. The combined revenue from both the permanent and proposed supplemental levy is \$1.7361. Depending on the cost of the service contract, the Riverdale district may not impose the full maximum amount of the supplemental levy. Importantly, Riverdale is located between Lake Oswego and the City of Portland. This location allows operational feasibility for either provider, which generates a potentially competitive environment for service provision.

Range of Services Procured

The new special district would purchase a full array of fire and EM service including:

- emergency priority 1 rapid response and fire initial attack;
- prompt response for medium and low priority fire/EM service;
- secondary support to supplement initial attack;
- technical rescue and Hazmat capacity, including personnel, expertise and equipment;
- sufficient resources to ensure reliable service during overlapping calls; and
- sufficient resources to support each jurisdictions emergency event plans.

Special District Structure and Governance

Establishing a special district covering the Three Cities presents a choice in how to structure a board of directors to govern the new jurisdiction. Several options might work:

- Establish a special district board of directors of 5 or 7 members allocated by population and directly elected by voters resident in the Three Cities.
- Representation by a 5-member board consisting of the 3 mayors and 2 council member positions which would rotate among the three cities.
- Representation of the three Cities by establishing a 7-member board. Each city would appoint a member of their city council to the district board. Four additional board members would be allocated by population across the new district.

The special district board would hire a general manager to execute board policy, to implement the fire and EM service contract, to prepare an annual budget and to report the budget to other authorities (Multnomah Tax Supervising and Conservation Commission, and to the Three Cities), and to manage capital expenditures.

Levy Rate Adjustment

Under the current service agreement, each of the three Cities pays the City of Gresham for fire and emergency medical services. These rates are codified in the current 10-year service agreement. Exhibit VII-3 below displays these annual reimbursement costs

prorated on a cost per resident basis, and on a cost per \$1,000 assessed value. The rate of cost per \$1,000 assessed value indicates a comparable levy rate that the cities are reimbursing to Gresham. The degree to which the three Cities would reduce their levy authority in order to offset any new levy authority established to the new district is unclear. A “transfer” of levy authority may be critical to gaining voter acceptance for a new special district. However, each City would want to strive to retain its full Measure 50 permanent tax levy to meet future unseen conditions, because once established, permanent levy rates may never be increased.

Exhibit VII-3

City/ Tax Levy Code Areas	Current City Levy Permanent Rate	Current Fire and EM Cost Per Capita Rate	Current Fire and EMS Cost Per \$1,000 Assessed Value (AV)
Fairview 240	3.4902	\$86.83	\$1.29
Fairview 404	3.4902	\$86.83	\$1.29
Troutdale 242	3.7652	\$97.56	\$1.40
Troutdale 248	3.7652	\$97.56	\$1.40
Troutdale 374 (also includes CRFPD14)	3.7652	\$97.56	\$1.40
Wood Village 241	3.1262	\$94.90	\$1.50

The current Three Cities fire service rates are similar to the permanent levy for the Riverdale fire district, which is \$1.2361 per \$1,000 assessed value. Riverdale voters just adopted a supplemental levy of \$0.50 per \$1,000 assessed value for a combined total levy of \$1.72. As with Riverdale, voters in a new special district would likely need to adopt an enhanced permanent levy, or a lower permanent levy and a supplemental levy to reach revenues in the \$1.70 to \$1.90 per \$1,000 assessed value range. The \$1.70 level is similar to the \$1.77 rate charge by TVF&R, and to the \$1.87 rate, which is the average cost for the Gresham FES system.

Service Procurement Challenges

Even with the establishment of a special district, procuring fire and emergency medical services may be challenging. Prospective service providers will consider 1) operational, 2) financial and 3) political factors before presenting a procurement proposal. Serving the new district may be challenging on an operational level for all but geographically adjacent service providers. See Alternative 0 above.

Isolation of Service Benefits and Costs

Establishing an independent district helps to communicate clearly to the voters the breadth of the full service area and the set of services the district intends to provide. Voters can understand the services and the corresponding costs. The district arrangement isolates costs and benefits from other city services and the Cities general funds. The district could independently place requests before the voters for supplemental levies and capital bonds. Levying taxes under the new district would result in a uniform levy rate across all three cities.

Downside of a Three-Cities Independent District

Establishing a new independent special district would require establishing a new Measure 50 permanent tax rate. The levy under this this rate would contribute to the total general government cap of \$10 per \$1,000 assessed value established under Measure 5. Adoption of the levy for a new district may result in compression of it and the other existing levies in the Three Cities. Should the new district place a supplemental operating levy before the

voters, it would be junior to all other permanent levies. A supplemental levy would be highly susceptible to compression. Under compression, tax rates are reduced to maintain the Measure 50 cap of \$10, which results in reduced revenues. Additionally, if assessed values drop below real market values, revenues will also be reduced.

Alternative 4: Purchase Fire and EM Services from Different Providers at Per Incident Rates

Alternative 4 presents an alternative to the current single all services IGA, by providing fire, EM services and preventions services under separate contracts. The alternative proposes the establishment of a fire department within one of the Three Cities, with the other two cities reimbursing for services. The city fire department would serve regulatory requirements as the official fire service for the Three Cities. The city fire department would also serve as the administering body for all contracts for fire, EM services and fire prevention services. As part of service procurement, the city fire department would negotiate a unit price per run of service provided. The Oregon State Fire Marshal reimbursement rates (Office of the State Fire Marshal 2013) provide a starting point for rate negotiations; however, these rates do not fully cover providers' costs.

Features of this alternative include

- **In-house City Fire Department:** Establish a city fire department within one of the Three Cities with the other two cities purchasing fire, EM services and prevention services from the department under an IGA.
- The city fire department would serve as the official regulatory fire service for the Three Cities. The city fire department would be registered with the Oregon State Fire Marshal.
- **Fire Service Procurement:** The city department would attempt to procure fire services from the Gresham FES on a per incident cost reimbursement basis. This would cover about 650 calls year.
- **EM Service Procurement:** About 74 percent (1,800 calls per year) of all Three City calls are for EM services. Rather than use Gresham FES for these calls, the city department would attempt to procure all or a portion of its first response EM services from AMR. This would include the addition of a paramedic (ALS) crew member on AMR units responding to EM calls in the Three Cities service area. Gresham FES would no longer be the primary provider of EM services to the Three Cities.
- **Prevention Service Procurement:** The city department would procure fire marshal inspection, prevention and investigation services from any certified public agency or private company. The contracted fire marshal will comply with all Oregon State Fire Marshal regulations and procedures.
- **Capital Costs:** The capital and apparatus infrastructure for this alternative relies on the provider. AMR would use its existing arrangement of vehicles and dispatch. Gresham FES would rely on its current arrangement of stations, station ownership and maintenance, and apparatus replacement. However, with a non-Gresham fire service provider, the Three Cities would need to make independent arrangements with RFPD10 to procure the use of Station 75, and it would likely need to build a new station in the central north Fairview area as in Alternative 1.
- Build procurement **rates for service based on the Oregon State Fire Marshal Fire Service Mobilization Plan reimbursement rates, and Gresham FES average personnel reimbursement rates.** These rates may effectively represent the incremental cost of incident response, especially EM service. These rates do not fully cover the cost of sustained service provision including indirect costs for personnel, training, capital investments, maintenance and administrative.

Strong Negatives for Fire Service Response

Decoupling fire and EM services into separate contracts has structural implications for system coverage and response times. Providing EM first response services through an ambulance with an additional paramedic may have the potential to substantially lower EM services costs.

Several small city/rural fire districts use this combination. As examples, the Canby and McMinnville fire districts provide ambulance services. They deliver combined first response EM and ambulance transport services using a single vehicle with a 2-person crew. Both districts have a long history of ambulance services, and neither falls under a county-wide ambulance contract. The Three Cities, however, fall under the county-wide Multnomah County ambulance contract, which may prohibit individual cities from establishing their own ambulance services. The strength of combining ambulance, EM and fire services into a single department is to leverage the capacity and flexibility of the system and resources. A firefighter paramedic can do medical treatment and transport on one call, and then shift to fire suppression on the next.

Implications of Decoupling Services: A Hypothetical Scenario

Decoupling fire and EM services would likely leave the fire services staff and apparatus with substantial unused capacity. Recall that the Three Cities service area demand is for about 5 EM services calls and 2 fire calls per day (Exhibits IV-2 and IV-3). We can easily develop a hypothetical scenario of downstream implications. Without the EM service calls, the fire services would respond to the two calls only. This leaves a tremendous amount of unused fire system capacity, and raises the question for Gresham FES whether to keep Station 75 in Troutdale open. Without a supplemental payment to keep Station 75 open, it would be hard to justify maintaining and operating the station at an annual cost of about \$2.35 million for only one call per day. The exact station configuration under this alternative is uncertain, but Gresham FES would likely close Station 75 and service the Three Cities from Stations 72, 71 and 74. This configuration would greatly increase response times. Much of the time a longer response time is not critical. However, for structural fires, industrial fires and smoke calls, immediate response is necessary, which would not be available under this alternative.

A Strong Caution on the Reimbursement Rates Used in this Alternative

This alternative bases its costs on a per hour reimbursement rate. Readers and decision makers must fully understand the limited nature of these rates. These rates do not represent full program cost recovery by the provider. These rates represent the cost of temporary service of trained crews and functioning equipment under the Oregon Fire Marshal's Fire Service Mobilization Plan (Office of the State Fire Marshal 2013). These costs do not include the costs of recruiting and training personnel, continuing maintenance on vehicles, capital costs, or the administrative costs of operating a fire district or city fire department. Thus, Gresham FES or any other provider will not accept these rates as the basis for sustained funding of their service package.

The reimbursement costs, however, **do represent the incremental cost** of responding to the next fire or EM incident. That is, with the equipment purchased and maintained, and the personnel hired and trained, the rates approximately cover the in the costs of making the next run. Exhibit VII-4 uses the reimbursement rates to determine the costs of field services under the current arrangements with Gresham FES. The table is based on an annual number of incidents in the Three Cities service area, and the combination of vehicle and crews that are dispatched to each incident type. The table is adapted from Exhibit IV-7 above.

Knowing the type of vehicles and crews dispatched to each type of incident, we applied the state reimbursement rates to compute fire service costs for the particular type of incident. For example, for the top line combination of a fire engine and an ambulance, the estimate includes the cost of providing a three-person engine at \$250/hr (state reimbursement rate plus hourly labor rate *3) for one hour, for 1,579 incidents (\$394,706). The AMR ambulance costs are not included because these are paid by the patient, not the fire department. These results are in the central column of Exhibit VII-4. The right-most column in the exhibit demonstrates the service costs of using 2-person rapid response vehicles instead of the 3-person engine. The state vehicle reimbursement rate is substantially less (\$40 compared to \$100), and using a two-person crew saves additional dollars.

Exhibit VII-4: Alternative 4 Per Incident Costs

Response Vehicle Composition	Annual Incidents	Current GFES Service (EMS 3-person eng)	Alternative 4 EMS by AMR (1 added paramedic @ \$50/hr)	Alt 4 Variation EMS by 2-Pers Rapid Response
Fire Truck & Ambulance (Med) 1hr	1,579	\$394,706	\$78,941	\$221,035
Fire Truck (F)	443	\$55,343	\$55,343	\$55,343
2 Fire Trucks & Ambulance (Med) 1 hr	150	\$74,772	\$74,772	\$74,772
2 Fire Trucks (F)	66	\$16,427	\$16,427	\$16,427
Fire Truck & 2 Ambulance (Med) 1hr	46	\$11,442	\$2,288	\$6,408
2 Fire Trucks & Command (F) 1hr	38	\$21,507	\$21,507	\$21,507
Public Info (C)	30	\$987	\$987	\$987
Medical (M) Ambulance only	25	0	0	0
3 Fire Trucks (F) 1hr	21	\$15,634	\$15,634	\$15,634
Other Uncertain composition	17	0	0	0
Fire Truck, Ambulance & Command (Medical) 1hr	17	\$5,282	\$5,282	\$5,282
2 Command & Fire Truck (F) 1hr	10	\$3,616	\$3,616	\$3,616
3 Command (F)	6	\$574	\$574	\$574
Fire Truck, Ambulance & Other (Medical)	3	\$793	\$793	\$793
Fire Truck & Command (F)	2	\$285	\$285	\$285
Total	2,451	\$601,369	\$276,450	\$422,664

The above table demonstrates the large cost difference between EM services first response provided by the standard 3-person engine, and EM first response service provided by a ride-along ALS paramedic. This cost differential of \$324,919 (\$601,369-\$276,450) gives one indication of the cost of medical first response, and shows how that cost might be reduced.

This incremental cost addition is especially appropriate because AMR must provide and train its crews and vehicles, and the ambulance will travel to the incident once dispatched.

Table Assumptions

The above table reflects numerous assumptions. We attempted to be very conservative in identifying incidents where the Gresham FES engine was on scene only to provide first response EM services. This led to two vehicle combinations: engine and ambulance, and engine and two ambulances. These two combinations would indicate incidents where a less expensive substitute could be made for the three-person engine.

The equipment rates were drawn from the Oregon Fire Marshal's Fire Service Mobilization Plan for 2013 (42-44). Under this schedule, we assumed equipment fire engine costs of \$100/ hr, command car at \$15/hr and a rapid response truck (similar to a light duty rescue rig) of \$40/hr. Medical calls were assumed to have an average duration of 60 minutes (2.2 year average was 61 mins.), and fire calls of 30 mins (2.2 year average of 28 mins). Fire calls were increased to 1 hour in length where the dispatched vehicle combination likely indicated a major event or major fire. Personnel costs were assumed at \$50/hr. This was based on a Gresham FES average of \$43/hr for firefighters and command staff without benefits and payroll taxes, and \$59/hr with benefits and payroll taxes.

Alternative Option

A less complete application of Alternative 4 may be more useful to the Three Cities. Our research indicates that Station 75 in Troutdale is operating at an average call capacity for the Gresham system. To gain full value of this capacity, continue to operate this station as is. Station 74, however, is the second busiest station in the Gresham FES system. Based on data from April 2011 to June 2013, Station 74 responded to 1,603 calls in the Three Cities. On an annual basis, this is 726 calls. Of these calls, about 530 are medical calls. Rather than have Gresham FES respond to these calls, the Three Cities could attempt to purchase first responder services for a block (portion, e.g. 200, 300) of these calls from AMR. This could be packaged as a pilot test. The Three Cities could reduce their payment to Gresham by \$250 each for each incident, and instead purchase AMR first response service for \$50 per incident. This would generate a net cost savings.

Alternative Raises Policy and Equity Issues

The idea of purchasing fire and EM services on a per incident basis conflicts with the policies and values of many fire districts. These districts recognize that their taxpayers pay taxes to cover program costs of building and sustaining fire and EM services programs. Such districts would balk at providing services on a per incident basis on a continuing basis. To provide services would be unfair to the district's taxpayers who pay a uniform tax to cover the same services. A district might be willing to contribute the use of specialized equipment such as a ladder truck or heavy rescue truck on an occasional basis with reimbursement, but to base a program solely on reimbursement rates would be understood by many districts as unfair and inequitable to their taxpayers.

AMR's interest or capacity in providing first response EM services would also need exploration. The Multnomah County ambulance contract may prevent any increase in service load. From the purchaser perspective of the Three Cities, any contract must clearly specify the services rendered and the response criteria. The Cities must actively enforce contract performance to ensure full value for their payments. AMR is a for-profit organization that will provide the required services and efficiencies, but will also seek ways to limit their costs and quality efforts.

Alternative 5: Reconstitute Rural Fire District #10

Rural Fire Protection District #10 (RFPD10) presents the Three Cities with a potential special district and alternate service delivery option. The district retains a permanent property tax rate of \$2.8527 although in recent years it has levied only \$2.7500 to cover costs. Features of a relationship between RFPD10 and The Cities could evolve as follows:

- RFPD10 could begin by establishing a trial agreement with the Three Cities to provide fire and emergency services. The Cities would transfer funds in an equivalent value to the current Gresham payment to the district. The Three Cities would also propose and encourage voter adoption of a 3 or 5-year supplemental tax levy for an equivalent revenue of up to \$2.45/ \$1,000 (e.g. \$1.25/\$1,000 for Wood Village, and \$146/ \$1,000 for Fairview). However, any supplemental levy would be strongly affected by Measure 5 compression. The Cities would transfer this revenue to RFPD10 in exchange for fire and EM services. RFPD10 would follow the staffing and capital program established under Alternatives 1A, 1B, 1C or 2.
- If the trial arrangement was deemed successful, RFPD10 could seek to annex the Three Cities service area into its district. RFPD10 would retain its permanent rate of \$2.8527, but would levy a uniform rate sufficient only to cover operations and administrative costs. This follows RFPD10 current practice of charging under their levy cap. Any capital costs would be covered under capital levies placed before the voters.
- Instead of contracting with the City of Gresham, RFPD10 could also provide service to its service area in southeast Multnomah County. This would generate a slightly larger system with 2.5 or 3 stations, which might provide some economy of scale. RFPD10 would use its existing station facilities 75 and 76.
- The alternative assumes that RFPD10 would want to provide services to the relatively small and isolated Three Cities service area.
- Depending on the service configuration, this alternative may incur capital costs of up to \$4.57 million.

Institutional Context:

Multnomah Rural Fire Protection District #10 (RFPD10) provided fire and emergency medical services to wide areas of East Multnomah County until 1994-1995 when the Three Cities withdrew from the district. RFPD10 remains in existence at a reduced scope, providing fire and emergency services through intergovernmental agreements to unincorporated areas of Multnomah County southeast of Gresham, and to the City of Maywood Park. The district contracts to with the City of Gresham FES to provide services to unincorporated East Multnomah County, and the City of Portland to Maywood Park. The district retains a permanent property tax rate of \$2.8527 although in recent years it has levied only \$2.7500 to cover costs. The district pays the City of Gresham the equivalent of \$1.90 to cover the cost of fire and emergency services, and fire marshal services.

Alternative 6: Establish an East Multnomah Fire and EM Services District

Alternative 6 proposes an independent fire and EM services special district to cover the service area currently served by RFPD10 and the City of Gresham. Alternative 6 describes a large-area, full-service system. A large full-service system has several advantages over several smaller city-centered or rural fire district centered systems. One possible configuration of a large-area, full-service system would include the following features:

- Cover the full service area of the City of Gresham, the Three Cities of Fairview, Troutdale and Wood Village, and the unincorporated areas of east Multnomah County currently served by RFPD10. At full extension, the new district might include RFPD14 Corbett.
- The district could establish itself under the existing authority and generous permanent tax rate of RFPD10. RFPD10 could annex areas within city boundaries to set the boundaries of a new special district.
- The new special district would float a bond levy to purchase new facilities and equipment and to buy-out the facilities and equipment currently owned by cities in the district.
- The large-area district would increase equity among property taxpayers across the district by applying a uniform property tax assessment and levy.
- The large-area district would resolve issues of inequitable cost sharing currently experienced by district residents and service users.
- A large-area district with a sufficient permanent property tax levy would ensure a dedicated flow of revenue directly to fire and emergency services. An independent levy would remove fire services from dependencies on local cities' general funds.
- A large-area district would distinguish fire and emergency services from other public services, and demonstrate a linked relationship between the revenues, and purchases of equipment, facilities and service provision.
- A large-area district is able to economically provide specialized apparatus and of specialized training for firefighters. These resources are often on standby, but are critical to extinguishing residential and commercial fires, complex rescues and other events requiring skilled staff.
- The large taxpayer and service area of a large-area district provides a large economic base over which to spread fixed costs, thus reducing the unit cost per citizen or property assessed value protected.
- A large-area district provides an economy of scale in recruiting and training firefighters, and in administrative staff.
- A large-area district provides substantial mutual resources to the City of Portland and to other surrounding districts.
- The large-area district would provide an independent source of fire marshal permitting, inspection and prevention services.

- A large-area district increases system reliability and flexibility by providing a unified command over all available resources to meet simultaneous calls, which occurs about 65 percent of the time for the full Gresham FES service area.
- The new district should stress emergency medical services as the primary service product. Providing this service should consider 2-person crews and lighter duty rapid response trucks.
- Strive for a benchmark rate of \$1.77 per \$1,000 assessed value.

Comparative Model and Efficiencies

Tualatin Valley Fire and Rescue district provides a model for this type of special district service provision. TVF&R charges uniform property tax rates on \$1,000 assessed values of: \$1.5252 Measure 50 permanent rate, a \$.2500 local option tax rate (\$1.7752 operating levies), and a .1393 levy for Measure 5 exempt general obligation bonds. Total levy is \$1.9145. (Tualatin Valley Fire & Rescue website). The district serves a population of almost 446,000 residents. The district operates 21 career and volunteer stations. The Clackamas Fire District #1 presents another large district model.

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IX. Appendix A: Methodology Details

Methodology Strategy: The study methodology was designed to take advantage of the unique strengths of quantitative, financial and qualitative data. Quantitative dispatch data was used to develop findings on service demand and service performance including GIS mappings. Financial data was used to develop findings for financial comparisons, service performance and to develop unit cost multipliers. Qualitative data provide opinions and information on system configurations, system performance and potential service options. The three forms of data were often used in a complementary manner to confirm or disprove analysis findings and potential conclusions. For example, interview questions were used to confirm the results of quantitative data analysis.

Although not specifically required by the study tasks, the study strategy was to construct a rudimentary incident risk analysis and service response analysis for the Three City service area. This analysis reflected the information and organization in a fire system standards of cover analysis.

Quantitative Data Sources and Analysis Approach

A dataset of fire and emergency services call and incident data was obtained from the City of Portland Bureau of Emergency Communication (BoEC). The dataset was specific to the GFES system, in that it recognized incident calls for service from Gresham, Fairview, Troutdale, Wood Village, unincorporated areas of eastern Multnomah County administered by Rural Fire Protection District 10 (RFPD10), and mutual aid. The dataset covered the period of April 17, 2011 to June 30, 2013. This period covered 806 days, or about 2 years and 2.5 months. The April 17, 2011 start date reflected the start date of a new dispatch system with BoEC, which made the data readily available. The variables in the dataset represent a subset of the full BoEC database, but the variables in our dataset proved sufficient for almost all analyses needed for the study

The BoEC call data was manipulated and analyzed using the Microsoft Excel package. We initially analyzed the full Gresham Fire and Emergency Services (Gresham FES) system to develop a service demand profile for the entire system. This included all jurisdictions and both fire and ambulance calls. We then removed the "ambulance only" calls to concentrate on the fire and EMS. Specific variables within the data were then recoded to facilitate categorization and analysis. Medical data was recoded into priority 1 and 3 calls. We placed focus on the call priority (1 or 3), and did not give detailed attention to the exact underlying medical condition. Data of fire service incidents were also re-categorized into a reduced number of categories. We used these reduced categories to compute charts and tables, but where needed, we returned to the cleaned dataset and broke out the component records (e.g. the incident rates by individual types of fire service calls, Exhibit IV-2). We used Excel to accumulate numerous pivot or categorization tables of the data. Pivot tables were used to develop categories and comparisons (Exhibits IV-2 to IV-11) for:

- call duration,
- simultaneous or overlapping calls for service,
- calls per day by service type,
- proportion of calls by fire or emergency medical,
- calls by time of day,

- calls by day of the week,
- calls by fire station and responding unit (especially Stations 74 and 75)
- composition of call response by type and combination of vehicles,
- response time,
- high repeat call destinations,
- mutual aid receipt,
- mutual aid contribution.

The cleaned and edited quantitative dataset was also used to develop GIS maps including:

- GFES geographic area and fire stations
- GFES incident call spot “heat” or intensity map
- Three cities geographic area and incident location

Financial Information and Analysis Approach

The goal in collecting financial and budget information was to understand the Gresham FES and Gresham city finances. We used the City of Gresham annual budget (primarily 2012-2013) and City of Gresham Comprehensive Annual Financial Reports (CAFR), to attempt to develop a cost structure for the Gresham FES, to compare its costs with other providers, and to compute unit costs of services. The team also obtained public financial documents including the annual budgets for

- Boring Rural Fire Protection District 59
- City of McMinnville Fire Department
- City of Canby Rural Fire Protection District 62

To compare Gresham FES costs and outputs with other comparable providers we consulted the annual budgets for the Cities of Hillsboro, Salem, Eugene and Tualatin Valley Fire and Rescue. After initial analysis, we discussed our findings with knowledgeable personnel at the different agencies.

We obtained basic assessed values and other tax information on numerous rural and urban fire protection districts from the Multnomah, Clackamas and Yamhill County assessors’ offices websites, and from the Multnomah Tax Supervising & Conservation Commission (TSCC 2013). These websites and offices provided property tax permanent tax rates by tax area, aggregate assessed values (AV), aggregate real market values, and property tax compression limits (Measure 5).

Qualitative Data and Analysis Approach

To gather qualitative data on,

- the Gresham FES,
- the Three Cities fire and Emergency Medical (EM) services demand and service situation,

- the experiences of comparable fire departments, and
- to gather advice on service delivery options,

We conducted interviews with the chiefs of the Gresham, Canby, McMinnville and Tualatin Valley Fire & Rescue departments or districts.

The chiefs were contacted and interviewed as public servants in, and on, the execution of their official duties. The interviews were all conducted at the chief's place of official business. The context of this project as a consulting study on behalf of the Three Cities was explained both in the initial telephone or email contact, and at the beginning of each interview. We framed the contact as an interview for technical information and for professional opinions to help the team develop a menu of options for the elected officials and administrators of the Three Cities. We conducted the interviews with two person teams to provide verification on the interviewee's statements and non-verbal cues. We took hand notes of the interview dialogues. The intent of the interviews was to gather technical information and professional opinion. We were not especially interested in the emotional aspects of the data, however, where this data appeared we noted it. Based on our intended use of the data to confirm technical information, we did not analyze the interview notes with advanced qualitative techniques.

X. Appendix B: Gresham—Three Cities IGA

INTERGOVERNMENTAL AGREEMENT FOR FIRE
AND EMERGENCY SERVICES

This Intergovernmental Agreement (Agreement) is between the City of Gresham (Gresham), the City of Troutdale (Troutdale), the City of Fairview (Fairview) and the City of Wood Village (Wood Village) (collectively "Three Cities").

Gresham and the Three Cities, under the authority of ORS Chapter 190, desire to enter into this Agreement for the provision of fire and emergency services to the territory within the city limits of the Three Cities.

NOW, THEREFORE, the parties agree as follows:

1. This Agreement shall be effective on the date the Agreement is signed by all the authorized signators listed below. The Agreement shall remain in effect until 11:59 p.m. June 30, 2015 unless earlier terminated in accordance with the paragraph 7 or modified in accordance with paragraph 8.

2. Gresham shall provide fire suppression, fire prevention, emergency medical services and hazardous materials emergency response services to the Three Cities. The level of service to be provided shall be the same level as that provided to the Three Cities as of the effective date of this Agreement.

a. The Three Cities agree to adopt the same Fire Code, with amendments, that is adopted by Gresham. Gresham shall provide notice to the Three Cities of each amendment to its Fire Code. Each of the Three Cities individually grant Gresham the authority to enforce that Fire Code in the Three Cities. Gresham accepts this authority and agrees to enforce that Fire Code within the Three Cities.

3. Gresham shall provide for all facilities maintenance, vehicle maintenance, equipment maintenance and replacement, and the attendant risk management, personnel management, and management support necessary to perform the services required under this Agreement.

a. Subject to the prior review and recommendation of the user board that is described in paragraph 4, Gresham reserves the right to locate personnel, facilities and apparatus to provide effective, cost effective service to its total regional service area.

4. A user board shall be established within sixty (60) days of the effective date of this Agreement. The user board shall be comprised of no more than nine (9) members, with six (6) of the nine (9) members being comprised of two (2) representatives that are recommended by Troutdale, two (2) representatives that recommended by Fairview and two (2) representatives that are recommended by Wood Village. Gresham and the Three Cities shall work cooperatively to establish the role and responsibilities of the user board.

5. Gresham shall provide the Three Cities an annual report that provides a statistical breakdown of services provided under this Agreement.

6. Troutdale, Fairview and Wood Village shall individually and independently pay Gresham the following sums as compensation for fire services:

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Troutdale	\$1,109,000	\$1,252,000	\$1,295,820	\$1,341,174	\$1,388,115
Fairview	\$526,000	\$621,000	\$642,735	\$665,231	\$688,514
Wood Village	\$245,000	\$296,000	\$306,360	\$317,083	\$328,181

	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Troutdale	\$1,443,640	\$1,501,386	\$1,561,441	\$1,623,899	\$1,688,855
Fairview	\$716,055	\$744,697	\$774,485	\$805,464	\$837,683
Wood Village	\$341,308	\$354,960	\$369,158	\$383,924	\$399,281

a. Troutdale, Fairview and Wood Village shall also be individually and independently responsible for the cost of Fire Dispatch services pursuant to the Intergovernmental Agreement with the City of Portland Bureau of Emergency Communications. Each city shall provide Gresham FES with written confirmation that it has paid for Fire Dispatch services.

b. The Three Cities annual financial obligations to Gresham, set out in the tables above, shall be paid in four equal installments, with the payments being made on or before October 1st, January 1st, April 1st and June 30th of each year.

7. This Agreement may be terminated by Gresham or by Troutdale, Fairview or Wood Village, in accordance with the following:

a. Gresham may terminate the Agreement if Troutdale, Fairview or Wood Village is in default and Gresham notifies the defaulting party in writing that it intends to terminate the Agreement if the default is not cured within ten days of the date the notice is received. If the Agreement is terminated by Gresham due to default by one of the Three Cities, the Agreement between Gresham and the remaining non-defaulting cities shall continue in full force and effect.

b. Troutdale, Fairview or Wood Village may terminate the Agreement if Gresham is in default and Troutdale, Fairview or Wood Village notifies Gresham and the other two cities that it intends to terminate the Agreement (Initial Termination Notice) if the default is not cured within ten days of the date the Initial Termination Notice is received. If the Agreement is terminated due to Gresham's default, the Agreement between Gresham and the two cities that did not issue the Initial Termination Notice shall continue in full force

and effect unless one or both of the other cities notify Gresham within five (5) days of the receipt of the Initial Termination Notice that they are also terminating the Agreement due to Gresham's default (Secondary Termination Notice). The Secondary Termination Notice shall cause the Agreement to be terminated as between Gresham and the other city that provided the Secondary Termination Notice.

c. Default occurs if one party fails to provide services or compensation required under this Agreement or otherwise fails to comply with the terms and conditions of this Agreement. A party may cure its default if it provides the services or complies with the applicable provision within the applicable ten (10) or five (5) day notice period.

d. Troutdale, Fairview or Wood Village may terminate the Agreement upon providing Gresham and the other two cities written notice of its intent to terminate the agreement at least two years prior to the termination date (Two-Year Opt Out Notice). If a Two-Year Opt Out Notice is issued, the Agreement between Gresham and the two cities that did not issue the Two-Year Opt Out Notice shall continue in full force and effect unless one or both of the other cities notify Gresham within thirty (30) days of the receipt of the Two-Year Opt Out Notice that they are also terminating the Agreement at the end of the two-year notice period (Secondary Opt Out Notice). The Secondary Opt Out Notice shall cause the Agreement to be terminated as between Gresham and the other city that provided the Secondary Opt Out Notice, effective the same date provided in the Two-Year Opt Out Notice.

8. After June 30, 2010, Gresham may notify the Three Cities in writing that it is requesting a review of the terms of this Agreement. The Three Cities shall grant Gresham's request to review the terms of this Agreement only if there are extraordinary and unforeseeable events that are outside Gresham's control that result in a nine and one-half percent (9.5%) or higher increase from the preceding fiscal year in current expenditures (excluding capital outlay and debt service) that Gresham incurs to provide fire services excluding hazmat services. The increase in expenditures must be the direct result of an unfunded mandate from another jurisdiction that Gresham must comply with, such as a change in the laws that are adopted by the Oregon Legislature, United States Congress, or a state or federal agency, or a ruling from an arbitrator as a result of mandatory binding arbitration.

a. Any modification to the terms of this Agreement, following a review as provided above, shall be in writing and approved by the authorized signature of each of the parties, which shall review and approve the modified Agreement individually.

b. If, following good faith negotiations, the parties are unable to reach an agreement regarding modifications to the Agreement, any one of the parties may elect to opt out of the negotiations and terminate its participation in the

Agreement by providing written notice to all the other parties one hundred and eighty (180) days prior to the termination date. The remaining parties may continue to negotiate or may elect to opt out of the Agreement. If a remaining party elects to opt out of the negotiations and terminate its participation in the Agreement the remaining party must provide the other parties with written notice of its intent to opt out of Agreement within one hundred and eighty (180) days.

9. This Agreement contains the entire written agreement between the parties and replaces all prior and contemporaneous written agreements between any of the parties pertaining to fire suppression, fire prevention, emergency medical services and hazardous emergency response services.

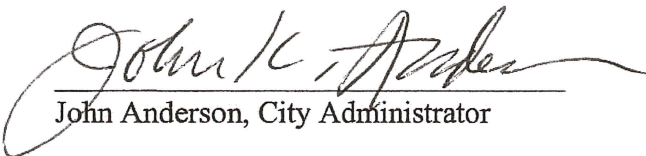
10. Gresham agrees to indemnify, defend and hold harmless the Three Cities from liability to third parties for its performance under the terms of this Agreement.

11. Gresham and the Three Cities agree that all claims, controversies or disputes which arise out of this Agreement shall be resolved by first participating in mediation, and if mediation is not successful, then by binding arbitration. The arbitrator shall be mutually selected by the parties. If the parties are unable to agree on the arbitrator, the parties shall request a list of arbitrators from Multnomah County Circuit Court and the arbitrator will be selected by striking an arbitrator from the list, alternating back and forth between the parties. Any judgment upon the award rendered pursuant to such arbitration may be entered in any court having jurisdiction thereof.

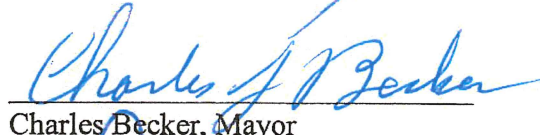
12. If a legal action, including binding mandatory arbitration, is instituted to enforce the terms of this Agreement, the prevailing party is entitled to such sums as the arbitrator or court deems reasonable for attorney fees, and to all costs and disbursements incurred.

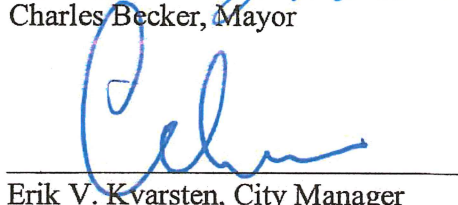
For Troutdale:
This 28th day of February, 200⁶5


Paul Thalhofer, Mayor


John Anderson, City Administrator

For Gresham:
This 7 day of February 200⁶5


Charles Becker, Mayor


Erik V. Kvarsten, City Manager

For Wood Village:
This 15th day of February, 200~~5~~⁶

Beverly Stone
~~David Fuller, Mayor~~
Beverly Stone, Mayor Pro Tem

Sheila M. Ritz
Sheila Ritz, City Administrator

APPROVED AS TO FORM:

Marnie Allen
Marnie Allen, Troutdale City Attorney

For Fairview:
This 2nd day of March, 200~~5~~⁶

Mike Weatherby
Mike Weatherby, Mayor

Jan C Wellman
Jan Wellman, City Administrator

APPROVED AS TO FORM:

Susan Bischoff
Susan Bischoff, Gresham City Attorney

XI. Appendix C: Multnomah County Mutual Aid IGA

**MULTNOMAH COUNTY FIRE DEFENSE DISTRICT
MUTUAL AID AGREEMENT**

1.0 INTRODUCTION

WHEREAS, certain disasters have the potential of overwhelming the capacity of any community to effectively respond to such emergencies, and;

WHEREAS, the parties desire to combine and coordinate resources for responses to such disasters occurring in Multnomah County,

NOW, THEREFORE, under the authority of ORS Chapter 190, it is agreed between the parties as follows:

This Agreement shall be effective on the date signed by at least two parties, and shall be effective as to each additional party as provided in Section 18 of this Agreement. The Agreement is entered into for the purpose of securing to each party periodic emergency assistance for response to overwhelming emergencies resulting from any cause.

2.0 AUTHORITY

This Agreement is entered into under the authority granted to the parties by their respective charters and/or Oregon Revised Statutes (ORS). Further, ORS 190.010 authorizes units of local government to enter into written agreements with any other units of local government for the purpose of any and all functions and activities that the parties to the agreement, its officers or agencies, have authority to perform, and ORS 190.110 authorizes units of state and local governments to enter into agreements with each other to cooperate in the performance of their duties. Additionally, ORS 401.270 authorizes the Director of the Office of Emergency Management to develop comprehensive statewide

Appendix C: Multnomah County Mutual Aid Agreement Text

plans for the protection of life and property during disasters, and ORS 401.480 authorizes state and local governments to enter into cooperative assistance agreements with public and private agencies for reciprocal emergency aid and resources. This Agreement is intended to be consistent with, and supportive of, such state contingency plans.

3.0 SCOPE OF AGREEMENT

This Agreement, being in conformance with the *Oregon Fire Service Plan* as adopted by the State Fire Marshal, shall include the following types and kinds of mutual aid assistance, and operating terms and conditions.

A. OPERATION OF THE FIRE DEFENSE BOARD. The member agencies of the Multnomah County Fire Defense Board agree to the conditions that follow in preparation for large-scale emergencies, or simultaneous emergencies, requiring the utilization of multi-jurisdiction forces for containment, suppression, or mitigation.

1. The Multnomah County Fire Defense Board shall function as an active body under bylaws and rules as are necessary and adopted by it. It shall select a Fire Defense Chief for taking official action under the terms of the Oregon Fire Service Plan.

2. The Fire Defense Chief, or any member of the Fire Defense Board assuming the duties of the Fire Defense Board Chief, may also be called upon to staff the Multnomah County Emergency Operations Center to represent fire jurisdiction interests in incident mitigation.

3. The Fire Defense Chief, or any member of the Fire Defense Board assuming the duties of the Fire Defense Chief, may direct the resources of any member of the Multnomah County Fire Defense District

Appendix C: Multnomah County Mutual Aid Agreement Text

for incident mitigation anywhere in the County, or as empowered by the Oregon State Fire Marshal's Office for non-county incidents.

4. The Fire Defense Chief, or any member of the Fire Defense Board assuming the duties of the Fire Defense Chief, has the authority to prioritize incidents within the County. Nothing in this Agreement shall abridge the right of a local jurisdiction to limit the movement of its resources beyond its boundaries so that at all times a reasonable level of protection is maintained within its boundaries.

5. Each of the undersigned local fire services hereby authorize the Multnomah County Fire Defense District to enter into mutual aid agreements with adjacent Fire Defense Districts, provided the agreements are in substantial conformance with the attached Exhibit A. Upon exercise of a mutual aid agreement between Fire Defense districts, and notification to the Fire Chiefs of the undersigned parties, the undersigned agree to comply with the direction of the Multnomah County Fire Defense District Fire Chief, and the protocols adopted by the Multnomah County Fire Defense District Board, and to provide mutual aid assistance to the signators of each Fire Defense District.

B. MUTUAL AID. Each of the parties hereto shall furnish to the other party such assistance as may be deemed necessary by the person in charge of the incident or in command of personnel and equipment at an incident in the jurisdiction where such incident occurs.

1. Provided, however, that this Agreement shall only apply within the jurisdiction of the participating political subdivision. Only such personnel and equipment shall be dispatched to assist as, in the opinion of the fire chief providing assistance, may be spared without unreasonably

Appendix C: Multnomah County Mutual Aid Agreement Text

reducing the level of protection within his/her jurisdiction, and provided further that the fire chief may refuse a request for assistance if necessary to comply with any limitations on the use of dedicated funds by that agency.

2. It is agreed by the parties hereto that mutual aid assistance, when sent, shall be dispatched promptly and that first response by the jurisdiction requesting assistance shall not be a prerequisite to a request for assistance under this Agreement.

3. The parties hereto agree through their respective departments to cooperate in setting up a move-up or dispatching system in order to provide a quick and adequate response of personnel and equipment as the situation warrants.

4. Subject to Paragraph No. 3(b)(1), minimum requirements of personnel and equipment available for assistance pursuant to this Agreement shall, generally comply with the Oregon Fire Service Plan. Other personnel and equipment minimums may be fixed by action of the Fire Defense Board. Agency fire chiefs shall provide their counterparts with written notice of any major changes in the availability of personnel and equipment.

5. Failure to keep these minimum requirements by any party shall be the basis for immediate cancellation of such nonconforming member's rights under this Agreement. Such cancellation shall be effected by the action of a simple majority of the parties to this Agreement. The nonconforming member shall be granted the right to appear before the Fire Defense Board for the purpose of presenting its case before such action may be taken by the Board. Ten working day's written notice of any such hearing mailed to the nonconforming party shall be deemed adequate.

Appendix C: Multnomah County Mutual Aid Agreement Text

- 3.1 **INCIDENT COMMAND SYSTEM.** The parties hereto agree that they shall operate in conformance with the State of Oregon incident command system as adopted by the Oregon State Fire Marshal and the Oregon Fire Chiefs' Association for the operation of the *Oregon Fire Service Plan*. Such incident management shall include record keeping functions so as to document all activities performed under this Agreement including, but not limited to, the scope and extent of personnel and equipment committed, operating times, out-of-pocket expenses, and other costs which, but for the response under this Agreement, would not have otherwise been incurred.
- 3.2 **SUPERVISION.** When personnel and/or equipment are furnished under this Agreement, the agency having incident command responsibility for the incident shall have overall supervision of mutual aid personnel and equipment during the period such incident is still in progress. Provided, however, when officers from the requesting jurisdiction have not arrived at the scene of the incident, the commanding officer of the jurisdiction arriving first to provide mutual aid assistance shall be in command of the incident until relieved. Further, "supervision" as used in this section refers to conduct of the emergency response mission. Each person participating in the emergency response mission remains an employee of that person's employing agency and is subject to the personnel policies solely of that employing agency.
- 3.3 **EMERGENCY CONFLAGRATION ACT OF HAZARDOUS MATERIALS RESPONSE.** It is further agreed that aid and assistance given under order of the Administrator of the State Emergency Management Division is in the event of the emergency proclamation by the Governor, or under the "Emergency Conflagration Act"; or response to hazardous material incident pursuant to the terms of a contract with the Office of the Oregon State Fire Marshal and in conformance with administrative rules regarding hazardous materials response promulgated by the Office of the Oregon State Fire Marshal and the State of Oregon, shall not be

Appendix C: Multnomah County Mutual Aid Agreement Text

governed by this Agreement. Implementation of such aid and assistance shall conform to the Oregon Fire Service Plan, as published by the State Fire Marshal.

4.0 REPEAL OF OTHER AGREEMENTS. This Agreement does NOT supersede or repeal any automatic aid agreements or pre-programmed first response agreements, hazardous materials response agreements with the State of Oregon, or mutual aid hazardous materials agreements with other State Response Teams, equipment sharing agreements, such as Nuclear, Biological and Chemical agreements with the City of Portland, or emergency planning agreements. The parties to this Agreement hereby repeal all other Mutual Aid Agreements or Mutual Assistance Agreements.

5.0 WAIVERS

5.1 GENERAL WAIVERS. Each party to this Agreement waives all claims against all other parties to this Agreement for compensation for any loss, damage, personal injury, or death occurring to personnel and/or equipment as a consequence of the performance of this Agreement.

5.2 HOLD HARMLESS. Any requesting party shall, to the extent permitted by any applicable constitutional or Tort Claims Act limitation, save and hold harmless any responding party against any and all claims or actions brought against the responding party, arising out of the responding party's efforts, except to the extent that such claims or actions arise out of any willful misconduct or grossly negligent action on the part of the responding party.

5.3 WORKERS' COMPENSATION. Each party to this Agreement agrees to provide workers' compensation insurance coverage to each of its employees and volunteers responding under this agreement, and recognizes that although overall incident command supervision will usually be provided by the jurisdiction in

which the incident occurs, supervision of individual employees will be provided by their regular supervisors. The intent of this provision is to prevent the creation of “special employer” relationships under Oregon worker compensation law.

6.0 REFUSALS TO PERFORM

This is a mutual aid agreement and it is assumed that all available assistance will generally be provided.

Nothing in this Agreement shall be construed to prevent the Chief or Commanding Officer of the fire fighting personnel and equipment of the party rendering assistance from refusing, in the exercise of his/her best judgment and discretion, to commit personnel or equipment to a position in which danger of loss of life or equipment exists. The Commanding Officer of the party furnishing aid on duty at the scene of the incident shall be the sole judgement of the extent and imminence of such danger.

7.0 COMPENSATION

The parties agree that the personnel and equipment available under this agreement are roughly equivalent and agree that the availability and provision of such constitute consideration under this agreement

No party to this Agreement shall be reimbursed by any other party to this Agreement for any cost incurred in the performance of this Agreement unless otherwise agreed upon.

8.0 TERMINATION

Any party hereto may terminate this Agreement at any time by giving thirty (30) days’ notice of the intention to do so to any and all other parties. Such notice shall be sent to the governing body of the other parties and a copy thereof to the chief of the department of the parties notified. This agreement will remain in effect so long as there are at least two parties to it.

9.0 EXTRA JURISDICTIONAL OPERATING AUTHORITY

The parties hereto recognize and agree that ORS Chapters 190, and 401 extend the powers and authorities of the Oregon local government parties herein beyond their regular jurisdictions when operating under and within the scope of this Agreement.

10.0 RETIREMENT SYSTEM STATUS

The parties hereto recognize and agree that under this Agreement public employee retirement benefits and social security benefits accrue in the manner prescribed by the employee's regular employment and are the responsibility of the regular employer as if the employee were performing the employee's regular duties. No additional benefits arise due to participation in assistance under this Agreement.

11.0 ASSIGNMENTS/SUBCONTRACTS

Except as expressly provided herein, the parties hereto recognize and agree not to assign, sell, transfer, subcontract or sublet rights, or delegate responsibilities under this Agreement, in whole or in part, without the prior written approval of the other parties hereto.

12.0 SUCCESSORS IN INTEREST

The provisions of this Agreement shall be binding upon and inure to the benefit of all other parties to the Agreement and the respective successors and assigns.

13.0 COMPLIANCE WITH GOVERNMENT REGULATIONS

Each party to this Agreement agrees to comply with all applicable federal, state and local laws, codes, regulations, and ordinances applicable to the work performed under this Agreement. The following provisions of the Oregon

Appendix C: Multnomah County Mutual Aid Agreement Text

Revised Statutes, as applicable, are hereby incorporated by this reference: ORS 279.312, 279.314, 279.316 and 279.320.

14.0 SEVERABILITY

If any provision of this Agreement is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected; the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular provision held to be invalid.

15.0 AMENDMENTS

The terms and conditions of this Agreement shall not be waived, altered, modified, supplemented, or amended in any manner whatsoever without prior written approval of the parties hereto.

16.0 DISPUTE RESOLUTION

This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon as interpreted by the Oregon courts. The exclusive venue for any litigation arising under this Agreement shall be in the Circuit Court of the State of Oregon. The parties expressly waive any and all rights to maintain an action under this Agreement in any other venue and expressly consent that, upon motion of any party, any case may be dismissed or its venue transferred, as appropriate, so as to effectuate the choice of venue made in this section. However, the parties may attempt to resolve any dispute arising under this Agreement by any appropriate means of dispute resolution, except binding arbitration.

17.0 ADDITIONAL PARTIES

Agencies may be added to this Agreement by submitting a signed signature page to the Multnomah County Fire Defense District (MCFDD) Board.

Appendix C: Multnomah County Mutual Aid Agreement Text

The Agency shall become a party to this agreement upon execution of the signature page by the MCFDD Fire Chief. The MCFDD Fire Chief shall notify all parties when new agencies are added.

18.0 SIGNATURES

The undersigned warrant and represent that they are duly authorized to bind the agency represented by the undersigned as a party to this Agreement, and that the agency represented by the undersigned is authorized to participate in and carry out the functions required by this Agreement.

All signatures shall be executed in counterparts, using the form appearing on the next page hereto or another substantially in that form.

It being the intention to avoid numerous signing of original documents, photocopies of the original documents will be prepared and delivered to each organization concerned herewith upon execution of said original documents.

Appendix C: Multnomah County Mutual Aid Agreement Text

SIGNATURE PAGE FOR MULTNOMAH COUNTY FIRE DEFENSE DISTRICT
MUTUAL AID AGREEMENT

PARTICIPATING AGENCY

SIGNATURE

TITLE

DATE

MULTNOMAH COUNTY FIRE DEFENSE DISTRICT, ACTING BY AND
THROUGH THE FIRE CHIEF

MULTNOMAH COUNTY FIRE DEFENSE DISTRICT, FIRE CHIEF

DATE

CITY OF PORTLAND

Erik Sten
Commissioner

Date: _____

Gary Blackmer
City Auditor

Date: _____

Edward A. Wilson
Fire Chief

Date: _____

City Attorney
Approved as to form

EXHIBIT A

MUTUAL AID AGREEMENT BETWEEN MULTNOMAH COUNTY
FIRE DEFENSE DISTRICT
AND
_____ COUNTY FIRE DEFENSE DISTRICT

WHEREAS, the parties hereto recognize the likelihood that fires or other like disasters occurring in their respective territories could reach such proportions that it would be impossible to control them with the equipment and personnel of any single agency or Fire Defense District (“Districts”), and

WHEREAS, the parties recognize the necessity to facilitate and comply with ORS 476.510 to 476.610 (the Oregon Emergency Conflagration Act), and

WHEREAS, it is necessary and proper that this Mutual Aid Agreement be entered into by the undersigned for the mutual protection of life and property, and

WHEREAS, the local fire services of each District, listed below, have approved and agree to be bound by the terms of this Agreement,

IN CONSIDERATION of the covenants herein contained, each of the undersigned agrees:

1. To respond to mutual aid requests between Districts as hereafter set forth, and pursuant to mutual aid and move-up procedures developed by the Districts and administered by the Districts’ respective Fire Defense Board Chiefs in conformance with the State of Oregon Mobilization Plan.

Appendix C: Multnomah County Mutual Aid Agreement Text

2. To furnish emergency equipment and personnel upon request, when available, to any of the undersigned when such assistance is necessary and appropriate.
3. That each party shall have the right to determine priority for providing fire suppression and/or other emergency services to any other party under this Agreement. This determination shall be the responsibility of the commanding officer of the agency sending the assistance.
4. That the officer in charge of the responding organization may, in the exercise of best judgement and discretion, decline to commit apparatus or personnel to a position which would dangerously imperil such resources.
5. That an organization responding under this plan will be for immediate, short duration assistance and that the requesting organization shall release responding units as soon as assistance is no longer required or when the responding units are needed within their own jurisdiction.
6. That none of the parties hereto shall be held liable to any other party for damage to property, loss of equipment, injury to personnel, or for the payment of any compensation arising in the course of, or as a result of, any assistance or lack of assistance rendered under the terms of this Agreement. This provision does not waive the legal rights of any individual.
7. The aid and assistance rendered by the signatories hereto under the Oregon Emergency Conflagration Act, state and national forest fire defense plans, civil defense plans, State of Oregon Regional Hazardous Materials Emergency Response Teams and other agreements which are not mutual

Appendix C: Multnomah County Mutual Aid Agreement Text

aid or mutual assistance agreements shall not be governed by the terms of this Agreement.

8. That mutual aid and move-up procedures shall be annually reviewed and updated. Each party is responsible for the coordination of resources and responses with other agencies within their local Fire Defense District.
9. That additional local fire service agencies may be added as parties to the Agreement as required. Such agencies shall first be recommended by the local fire defense board and be approved by each of the existing parties. Any additions shall be made by means of attachment to this Agreement.
10. That the continued failure by any party to meet the requirements established herein shall be considered just cause for the removal as a participant in this Agreement.
11. That any party may withdraw from this Agreement by giving thirty (30) days' written notice of its intent to withdraw to each of the other parties.
12. Each Fire Defense District represents that it has obtained prior approval from each of the local fire service agencies listed below to enter into this Agreement.

The effective date of this Agreement shall be _____, and it shall remain in effect until modified or repealed.

Local fire protection agencies not identified below may be added in accordance with Section 10 of this Agreement. For Multnomah County Fire Defense District, the local fire service agencies are: Portland Bureau of Fire, Rescue & Emergency Services, Gresham Fire & Rescue Services, Multnomah County RFPD #14, and Sauvie Island

Appendix C: Multnomah County Mutual Aid Agreement Text

RFPD #30. For _____ County Fire Defense District, the local fire service agencies are: _____.

Three (3) original signed copies of this Agreement shall be maintained on file as follows:

- One (1) at the office of the Oregon State Fire Marshal
- One (1) at the office of the Multnomah County Fire Defense Board Chief
- One (1) at the office of the County Fire Defense Board Chief

Each party of the local fire protection agency to this Agreement shall receive a copy of the final signed agreement.

IN WITNESS WHEREOF each of the undersigned has caused this Agreement to be signed by its duly authorized officers.

DISTRICT SIGNATURES

MULTNOMAH COUNTY FIRE DEFENSE

Fire Defense Board Chief: _____ Date: _____

_____ COUNTY FIRE DEFENSE DISTRICT

Fire Defense Board Chief: _____ Date: _____