Eugene
Fire & Emergency Medical Services Department

Springfield
Fire & Life Safety Department

Metro Standards of Response Coverage

Fiscal Year 2011

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EXECUTIVE SUMMARY

Introduction

This is the second annual Metro Standards of Response Coverage document for the Springfield Fire & Life Safety Department (hereafter referred to as Springfield) and the Eugene Fire & EMS Department (hereafter referred to as Eugene). The combined departments hereafter will be referred to as the Metro departments.

About this Document

This document provides an analysis of the response resources, deployment strategies, and operational elements of the Metro departments, and the community risk to which they respond. It establishes response time goals and standards for measuring the effectiveness of both the overall resource base and its deployment. Based on this analysis, the report also offers a number of recommendations and future goals aimed at maintaining and/or improving the Metro departments' response coverage.

By definition, Standards of Response Coverage address the emergency response resources and deployment strategies necessary to deliver a defined level of emergency service. A common term that is used in the fire service is "Service Level Objectives," which are defined as: The number, type, and spacing of resources necessary to meet the response time, on-scene staffing, and risk mitigation objectives set by the authority having jurisdiction (AHJ)[1].

This document is a planning, benchmarking, and public information tool, and this report is required, and is of immeasurable assistance, in achieving and maintaining accredited status under the auspices of the Center for Public Safety Excellence.

About the Springfield Fire & Life Safety Department

The department first began protecting the city of Springfield with firefighting operations on July 25, 1886. Today, the department has 106 full-time equivalent positions, including 87 uniformed and 19 civilian positions. The department provides fire, life safety, rescue, emergency medical, fire code enforcement, fire investigation, and public information, education and outreach services to the city of Springfield (population 58,575; area 15.7 square miles), and by contract to three adjacent special districts (combined additional population of 7,725; and 4.1 square miles).

The department added the provision of ambulance transportation to its service package in 1981, and is the duly-authorized provider of ambulance services to a 1,514-square-mile Ambulance Service Area in east/central Lane County, including Springfield. In 2010, the department entered into a contract with a private provider for non-emergency basic life support (BLS) interfacility transports.

[1] Commission on Fire Accreditation International, Fire & Emergency Service Self-Assessment Manual, 7th edition, p. 48

Springfield currently holds a Class 3 fire suppression rating (with 1 being the highest on a 10-point scale) from the Insurance Services Office, Inc. Funding is being sought for communications equipment improvements that would allow the department to apply for reclassification to a Class 2 rating.

About the Eugene Fire & EMS Department

The department first began protecting what was then called Eugene City with firefighting operations on April 3, 1872. Today, the department has 212 full-time-equivalent positions, including 182 uniformed and 30 civilian positions. The department provides fire, life safety, rescue, emergency medical, fire code enforcement, fire investigation, and public education services to the city of Eugene (population 157,010; area 43.9 square miles), and by contract to five adjacent special districts (combined additional population 10,364; area of 29.2 square miles).

The department added the provision of ambulance transportation to its service package in 1981, and is the duly-authorized provider of ambulance services to a 434-square-mile Ambulance Service Area in west/central Lane County, including Eugene. In 2009, the department entered into a contract with a private provider for non-emergency basic life support (BLS) interfacility transports.

Eugene currently holds a Class 3 fire suppression rating (with 1 being the highest on a 10-point scale) from the Insurance Services Office, Inc. Funding is being sought for communications equipment improvements that would allow the department to apply for reinstatement of the Class 2 rating that it enjoyed until recently.

Analysis of Risk Factors

In any service area, a number of factors combine to create levels of risk. These include the geographic area; type and density of development; topography; seasonal factors; water supply; transportation systems; and population demographics. Recognition of changes to the Metro departments' specific mix of community risk factors is a key consideration – along with analysis of the temporal distribution of incidents and available resources – in service and deployment decisions.

In recent years the Metro departments have expanded fire suppression and first-response emergency medical services into the growing, partially-incorporated Santa Clara area as annexation to the City of Eugene has continued; both departments have contracted with a private service provider to handle non-emergent medical transports; both have integrated response operations; and both have made many other deployment and service adjustments, always with a view toward addressing the community's changing risk factors and providing optimal service.

The Metro departments have enhanced their automatic aid agreement for a better integrated and seamless response system protecting the entire metropolitan area, along with surrounding jurisdictions, and to improve operational and administrative readiness to respond not only to

emergencies in the field, but also to financial, political, capacity, and training issues that must be addressed now or in the foreseeable future.

In 2009, the Eugene Fire & EMS Department staffed a joint elected officials' study of ambulance funding issues, whose charge was to develop recommendations to address chronic shortfalls in ambulance service revenue, which were brought on by Medicare reimbursement reductions and other economic factors. The full elected bodies in our region are now considering those recommendations.

The Metro departments also commissioned a consulting firm analysis of possible additional areas of collaboration between the departments. That study recommended that the two departments merge, and ultimately form a separate fire district. The Eugene and Springfield City Councils are considering those recommendations, as staff take preliminary steps towards a "functional consolidation" as a means of reducing costs and providing for metro-wide service efficiencies. The term "functional consolidation" refers to a consolidation of some of the administrative and support functions of the Metro departments, using a series of incremental (and reversible) steps towards a merger. Beginning July 1, 2010, the two cities entered into an intergovernmental agreement (IGA) to provide for the recommended functional consolidation. Currently the departments are sharing the following positions:

Chief of Departments
Deputy Chief of Shift Operations
Deputy Chief of Special Operations
Deputy Chief, Fire Marshal
Administrative Services Manager (currently limited to Ambulance Billing oversight)
Deputy Chief of EMS and Community Relations
EMS Chief
EMS Officer
Training Chief
9 Battalion Chiefs

In the analysis described in Section Three, risk areas are established in two ways to better facilitate review. For all emergency services except ambulance transport, the service area is divided into Risk Area "A" (Eugene city limits plus the contiguous and urban River Road Water District; and Springfield city limits and contiguous contract districts); and Risk Area "B" (rural and semi-rural property in the other four special districts contracting with Eugene for first response services).

For ambulance transport services, the Ambulance Service Areas are divided into four response zones as established in the Lane County Ambulance Service Area Plan in 2004. Eugene, ASA#4, has three ambulance response zones: urban, suburban, and rural. Springfield ASA#5 has four zones: urban, surburban, rural and frontier. These areas and zones are now routinely used to analyze response times. Currently, discussions are underway the Lane Rural Fire/Rescue District regarding a trial transfer of responsibility for a majority of ASA #4, Zone #3, which includes the Veneta, Elmira and Noti areas. Zone #3 receives its fire protection and EMS first response

coverage from Lane County Fire District #1. District #1 has also been involved in these discussions.

Emergency Response Times

Response time is typically defined as the time interval between the moment a resource is dispatched and the time it arrives at the incident. "Perceived response time," sometimes known as the "customer interval," from the time an incident is reported, is generally longer, because it also includes the time needed for call processing. While the Metro departments do not have direct control over call processing, this aspect of emergency response is included in our analysis because it is part of the overall customer interval.

Public safety industry standards measure response times against a percentile, or a percentage of the calls in which the response time falls within set parameters. Based upon the measurement and analysis of response times and community risk, the Metro departments have established response time goals that indicate levels of service that can be expected by members of our community. These are detailed in Section Five.

Distribution of Resources

The Metro departments currently operate from 16 fire stations, staffing and deploying 14 engines, 3 trucks, an Airport Rescue and Fire Fighting (ARFF) unit, and 8 ambulances (six 24-hour units, one peak-demand unit, and one last-out "swing" unit). The contract ambulance provider deploys two units locally. Current resource distribution concerns are:

- Far west Eugene has response coverage deficiencies, and currently lacks the level of development and population to justify adding a new station and on-duty response resources. These are however, planned for the future.

- Portions of southeast and south central Eugene are located in a wildland/urban interface fire zone and have poor transportation routes and access limitations related to topography. There are also water supply concerns in these areas.

- The Glenwood Water District currently has a gap in coverage. A relocation of Fire Station 4 to the south of its current location would improve coverage to this area.

- The Glenwood Water District, the Willakenzie area south of Jasper and along Weyerhaeuser heading southeast from the city of Springfield, have been identified as areas of concern due to projected areas of service demand outside of response time guidelines.

- Overall response reliability (availability of normal first-in unit) is gradually declining as the number of calls for service continues to rise. Discussion and statistics are given in Section Nine.

- The number of on-duty fire and emergency medical service resources are not keeping pace with community growth and demand for services. See **Historical Perspective** below and in Section Ten.

Historical Perspective

Since 1990, Springfield's service area population has risen from 44,683 to 66,300 residents today. During this time period, the number of calls per year for service has risen from less than 4,600 to more than 11,100. This is due primarily to a steady rise in demand for medical services. Over the same 21-year period, the number of response personnel has risen from 66 to 75, meaning the ratio of firefighters and medics per 1,000 of population has declined from 1.48 to 1.13, or more than 23.6 percent.

Since 1990, Eugene's service area population, which includes five fire protection contract districts, has risen from just over 106,000 to more than 168,200 residents today. During this time period, the number of calls per year for service has risen from less than 7,400 to more than 21,500. This is due primarily to a steady rise in demand for medical services. Over the same 21-year period, the number of response personnel has risen from 152 to 175, meaning the ratio of firefighters and medics per 1,000 of population has declined from 1.43 to 1.04, or more than 27.3 percent.

In addition, while calls for service have increased by 172 percent during this period of time, minimum firefighter shift staffing levels have only increased by one firefighter since 1981. At the same time, response standards, recommended by the National Fire Protection Association (NFPA), and adopted by Occupational Safety & Health Administration **(**OSHA**),** now require that more firefighters (15) respond to emergencies involving environments that are immediately dangerous to life and health (IDLH) than required in 1981 (10). This accounts for a 50 percent increase in personnel required for the initial response. The result is that firefighters from a larger geographical area within the cities now respond to fires, hazardous materials releases and some rescue calls. This requires more personnel and equipment vacating a larger geographical area, which adversely impacts response reliability.

Objectives and Recommendations

On the basis of the analysis of coverage currently being provided, the Metro departments have established the following objectives and make the following recommendations:

Objective 1: Stabilize ambulance transport funding.

Recommendations:

1. **Increase the capacity of the system to meet call demand**. Simply stated, more resources (fire companies and medic units) are needed on the street to meet the departments' ever-increasing call load.

   The 3-Battalion System has helped to address this concern, by providing for a rapid two-department response complement when required, and also by allowing for more

dynamic move-up coverage in order to maintain an adequate level of protection for the entire metro area in the event of multiple simultaneous small incidents, or one or more large-scale localized incident(s).

The proposed merger of the Metro departments could offer further deployment reconfiguration opportunities, particularly for emergency medical transport resources.

2. **Continue to analyze the EMS system and make adjustments as needed**. All options need to be considered including the development of a tiered transport system that provides different levels of service.

   A joint intergovernmental task force, with representation from three ambulance service providers in the region, Eugene and Springfield City Councils and the Lane County Board of Commissioners, are currently meeting to study the issues and make recommendations. These meetings are a follow-up to a series of meetings held in 2009 to develop solutions, some of which were implemented through 2010. However, these have not solved the capacity overload issues within the system. Additional recommendations, including General Fund Support and the possible formation of a fire and ambulance district (or annexation to an existing district) are still being considered by the full elected governing bodies, as staff takes preliminary steps towards a "functional consolidation" to reduce costs and provide for metro-wide service efficiencies.

3. **Seek a legislative remedy to the federal CMS issue**. The reimbursement reduction schedule implemented in 2009 by the federal Centers for Medicare & Medicaid Services (CMS) has placed a significant financial burden on many health care providers in the country. The Metro departments are working with other transport providers, both public and private, to lobby the federal government to revise the payment schedule to more accurately reflect true service costs by region.

   Like most ambulance service providers across the United States, the Metro departments are committed to staying in contact with our elected representatives in Congress to request that the Medicare reimbursement schedule for ambulance providers be revisited and revised in view of its service impacts.

4. **Reduce service costs**. The Metro departments continue to look for sustainable methods that can be employed to systematically lower the unit costs of providing ambulance transport services. To this end, we are evaluating different equipment, technology, and partnership opportunities. We are also continuing the FireMed ambulance membership program as one means of supporting transport operations while providing a measure of social equity and a cost control opportunity for community members.

Objective 2: Effectively address economic and demographic trends to ensure that an adequate level of emergency response capacity is maintained (and augmented as necessary), and to ensure that the Metro departments continue to meet expected response time standards for the community.

Recommendations:

1. Take steps to reverse the long-term erosion in the number of firefighters per 1,000 population.

2. Continue to meet NFPA 1710 standards for providing an effective response force on an emergency scene within acceptable and realistic time frames.

3. Continue to project, analyze, and address future demands that will be placed on the organization by continued growth, greater density, increased call volume, shifting demographics, and other risks in the future.

Objective 3: Plan for future development of the infrastructure necessary to support fire, life safety and emergency medical services provisions in the underserved portions of the Eugene-Springfield metro area.

Recommendations:

1. Analyze growth and development on a metropolitan level, and respond by planning for station locations that will optimize response capability. Carry plans forward to construction in a timely fashion to ensure that developing areas receive adequate service. This is an ongoing process which must be tempered by the financial challenges being experienced by both cities.

Objective 4: The Metro departments will work with other regional partners to identify and implement ways of providing better and more cost-effective services to the metro area.

Recommendations:

1. Study and, if feasible, implement additional metro-wide approaches to delivery of non-fire suppression services. (Fire suppression services are already provided through the 3-Battalion System that seamlessly incorporates the resources of the Metro departments.) Services and functions that are currently under consideration for such an approach include fire prevention, training, logistics, and administration.

2. The Metro departments commissioned the Portland consulting firm Emergency Services Consulting Inc. (ESCI) in 2009 to conduct a formal study of the departments' prospects for collaboration. The study concluded that the departments should merge, and should ultimately form a fire district or other type of tax-and-service entity. The Eugene and Springfield City Councils are considering those recommendations, as staff take preliminary steps towards a "functional consolidation" as a means of reducing costs and providing for metro-wide service efficiencies. The

term “functional consolidation” refers to a consolidation of some of the administrative and support functions of the Metro departments, using a series of incremental (and reversible) steps towards a merger. As indicated above, the functional consolidation became a reality in July of 2010.

SECTION ONE: Introduction

Purpose

This is the second annual Metro Standards of Response Coverage document for Springfield Fire & Life Safety and Eugene Fire & EMS. The Metro departments use the analysis in this document to comprehensively address a number of issues, including the following:

- Deployment options, taking into consideration the degree and location of the various types of community risk, as well as resources available, to provide an appropriate level of response for the various services provided by the Metro departments.
- Meeting the changing demands for service in various parts of the Eugene-Springfield metropolitan area brought about by shifting demographics.
- The need for, and strategic placement of, future fire stations.

The purpose of a Standards of Response Coverage document is to provide the following:

- A baseline tool for defining emergency response performance standards and goals.
- A summary of community risk (life safety, economic, and environmental).
- An analysis of critical emergency scene tasks, assuming maximum utilization of all personnel under a "worst case" scenario, consistent with the Metro departments' risk analysis, staffing levels, and goals.
- A basis for continually measuring performance over time.
- Recommendations for short-term and long-term policy decisions dealing with resource procurement and allocation.

Standards of Response Coverage typically consist of three key elements:

- Distribution — the station and resource locations needed to assure rapid response deployment to minimize and mitigate emergencies.
- Concentration — the spacing of multiple resources arranged so that an initial "effective response force" can arrive on scene within sufficient time frames to mobilize and likely stop the escalation of an emergency commensurate with a specific risk category.
- Staffing levels — the numbers of response-ready personnel and their assignments.

The Standards of Response Coverage are developed through the systematic evaluation of the Metro departments' present policies, practices, and historical response data. The results of these analyses are then used to develop formal statements regarding the level of service the departments can be expected to regularly provide to designated service areas, along with recommendations to make changes in the way services are delivered for the purpose of improving the level of service to the community.

SECTION TWO: Community Baselines

Overview and Legal Jurisdiction

The City of Eugene is the second-largest city in Oregon, with a population of 157,010 (Portland State University Population Research Center, July 1, 2011 certified estimates) and an incorporated area of 43.9 square miles. Located in western Oregon's southern Willamette Valley, the community was first officially recognized with the establishment of a post office in 1850. It was formally incorporated in 1862 as Eugene City, after early settler Eugene Skinner, and then renamed two years later as the City of Eugene.

The current city charter was adopted in 1976 and has been amended numerous times since then. It can be found on the City's website at http://www.eugene-or.gov.

The City operates under a council/manager form of government. The City Council develops and adopts legislation and policies to direct the City organization, but employs a professional administrator (the City Manager) to manage and oversee all City personnel and operations to carry out the council's direction. The City is organized into six departments – Central Services, Public Works, Library, Recreation & Cultural Services, Planning & Development, Police, and Fire & Emergency Medical Services.

The City Council has eight members. Councilors are elected by geographic ward on a nonpartisan ballot for staggered four-year terms. The Mayor serves as the City's ceremonial head, political leader and chair of the City Council. The Mayor is elected by the city at large on a nonpartisan ballot for a four-year term.

Fire protection in Eugene was first organized on April 3, 1872, as the Eugene Hook and Ladder Company Number 1. The department, Eugene's first, is now known as the Eugene Fire & EMS Department and has been in continuous operation since that time. The department began providing ambulance transport services in 1981 and continues to provide this service to a large area of central Lane County. Eugene Fire & EMS currently enjoys a Class 3 fire suppression rating from the Insurance Services Office, Inc. (on a scale of 1-10, with 1 representing the highest rating).

The City Manager hires the Fire Chief, who is responsible for organizing and administering the department. The department consists of 212 full time equivalent (FTE) positions, including 182 uniformed and 30 civilian positions.

The City of Springfield is the ninth-largest city in Oregon with a population of 58,575 (Portland State University Population Research Center, 12/2010 population estimates) and an incorporated area of 15.7 square miles. Located in western Oregon's southern Willamette Valley, the community was settled when Elias and Mary Briggs and their family arrived in 1848. They were amongst the first party to travel to the region via the "Southern Route" by Klamath Lake, over the Cascades, into the Rogue Valley, then north to the Willamette Valley.

Elias Briggs chose for his home a place convenient to a spring of water; in due time this land was fenced in. This enclosure became known as the “springfield” — hence the name of the town. The Briggs family operated a ferry across the Willamette River at roughly the site now occupied by the Union Pacific Railroad bridge.

In 1852, Mr. Briggs began building a town. He dug and built the mill race and he and Mr. Driggs of Linn County formed the Briggs and Driggs Company, and began to build a flour mill and a saw mill in 1853 and 1854 respectively.

Springfield was platted in 1856, incorporated as a city February 25, 1885, and received its charter March 17, 1893. In 1891, Springfield received its first railroad line. In 1910, Springfield welcomed the Portland, Eugene and Electric Railroad streetcar.

Springfield maintained its small town ways until after World War II. The retail center was Main Street, industries were northwest of the railroad tracks and residences were to the north. In 1940, the City’s area was only 1.5 square miles and the population only 3,805. By 1998, apartments covered the spring. The City expanded to more than 13 square miles, and the population grew to 51,700.

The City operates under a council/manager form of government. The City Council develops and adopts legislation and policies to direct the City organization, but employs a professional administrator (the City Manager) to manage and oversee all City personnel and operations to carry out the council’s direction. The City is organized into eight departments – Development Services, Finance, Human Resources, Information Technology, Library, Police, Public Works, and Fire & Life Safety.

The City Council has six members. Councilors are elected by geographic ward on a nonpartisan ballot for staggered four-year terms. The Mayor serves as the City's ceremonial head, political leader and chair of the City Council. The Mayor is elected by the city at large on a nonpartisan ballot for a four-year term.

Fire protection in Springfield was first organized on July 25, 1886. The department is now known as the Springfield Fire & Life Safety Department, and has been in continuous operation since that time. The department began providing ambulance transport services in 1981 and continues to provide this service to a large area of central Lane County. Springfield Fire & Life Safety currently enjoys a Class 3 fire suppression rating from the Insurance Services Office, Inc. (on a scale of 1-10, with 1 representing the highest rating).

The City Manager hires the Fire Chief, who is responsible for organizing and administering the department. The department consists of 106 full time equivalent (FTE) positions, including 87 uniformed and 19 civilian positions.

Due to the poor economy, both city organizations are facing budgetary shortfalls, which have resulted in budget reductions for both departments.

The Metro departments are organized into five functional divisions under a single Fire Chief who reports to both cities. The five divisions include: Shift Operations; Special Operations; Fire Marshal's Office; EMS and Community Relations; and Administrative Services, and provide fire, life safety, rescue, emergency medical, code enforcement, and fire/injury prevention education services to the citizens of Eugene and Springfield, and to seven neighboring special districts through long-standing contractual agreements. Neighboring districts served under contract, include Bailey Spencer RFPD, Eugene Fire District #1, Glenwood RFPD, Rainbow RFPD, River Road Water District, Willakenzie RFPD, and Zumwalt RFPD.

In addition, the Metro departments provide advanced life support (ALS) ambulance transport service to Lane County Ambulance Service Area (ASA) #4 and #5. These ASAs include the cities themselves plus large outlying geographic areas in both cases, generally to the west for Eugene and to the east for Springfield. Eugene's ASA extends approximately halfway to the coast and covers a total of 434 square miles, while Springfield's includes territory as far east as McKenzie Bridge, and has a total area of 1,514 square miles.

Table 2.1 Primary Service Area Statistics

EUGENE DISTRICTS	POPULATION	AREA (sq mi)	ASSESSED PROPERTY VALUE
City of Eugene	157,010	43.9	$11,613,161,618
Bailey-Spencer RFPD	439	5.0	43,660,891
Eugene Fire District #1	840	9.8	114,142,105
River Road Water District	7,012	1.8	411,524,888
Willakenzie-Eugene RFPD	960	1.2	63,353,301
Zumwalt RFPD	1,113	11.4	102,720,327
TOTALS	168,209	73.1	$12,348,563,130

SPRINGFIELD DISTRICTS	POPULATION	AREA (sq mi)	ASSESSED PROPERTY VALUE
City of Springfield	58,575	15.7	$3,720,698,884
Glenwood Water District	1,200	0.5	45,337,167
Rainbow Water District	4,763	1.4	321,665,428
Willakenzie-Springfield RFPD	1,762	2.2	99,091,061
TOTALS	66,300	19.8	$4,186,792,540

- City population figures from Portland State University, Population Research Center, December, 2010
- District population and area figures supplied by Lane Council of Governments, January, 2011
- Property value figures supplied by Lane County Department of Assessment & Taxation (Tax Year 2010-11)

Resources

The Metro departments operate out of 16 fire stations divided into three geographically defined districts: Battalion One (central), Battalion Two (west) and Battalion Three (east). Staffing minimums are shown in Table 2.2 as the minimum number of personnel assigned to each company or unit per shift. Specialized equipment that does not have regularly assigned staffing is not shown in the table, but is included in the Distribution of Resources Section.

Table 2.2 Emergency Response Staffing

Battalion One:

Station 1 – "Downtown Station" – 1320 Willamette Street		**Staffing**
	Battalion Chief 1	1
	Engine 1	3
	Truck 1	3
	Medic 1	2
Station 6 – "Sheldon Station" – 2435 Willakenzie Road		
	Engine 6	3
	Medic 6*	2
Station 9 – "Valley River Station" – 697 Goodpasture Island Road		
	Engine 9	3
Station 13 – "University Station" – 1695 Agate Street		
	Engine 13	3
Station 15 – "South Hills Station" – 80 E. 33rd Avenue		
	Engine 15	3

* staffed during periods of peak demand

Battalion Two:

Station 2 – "Whiteaker Station" – 1725 W. 2nd Avenue		**Staffing**
	Battalion Chief 2	1
	Engine 2	3
	Tower 2	3
Station 7 – "Bethel Station" – 4664 Barger Drive		
	Engine 7	3
Station 8 – "Danebo Station" – 500 Berntzen Road		
	Engine 8	3
	Medic 8*	
Station 10 – "Bailey Hill Station" – 2002 Bailey Hill Road		
	Engine 10	3
	Medic 10	2
Station 11 – "Santa Clara Station" – 111 Santa Clara Avenue		
	Engine 11	3
	Medic 11	2
Station 12 – "Airport Station" – 90711 Northrup Drive		
	Airport 1	2

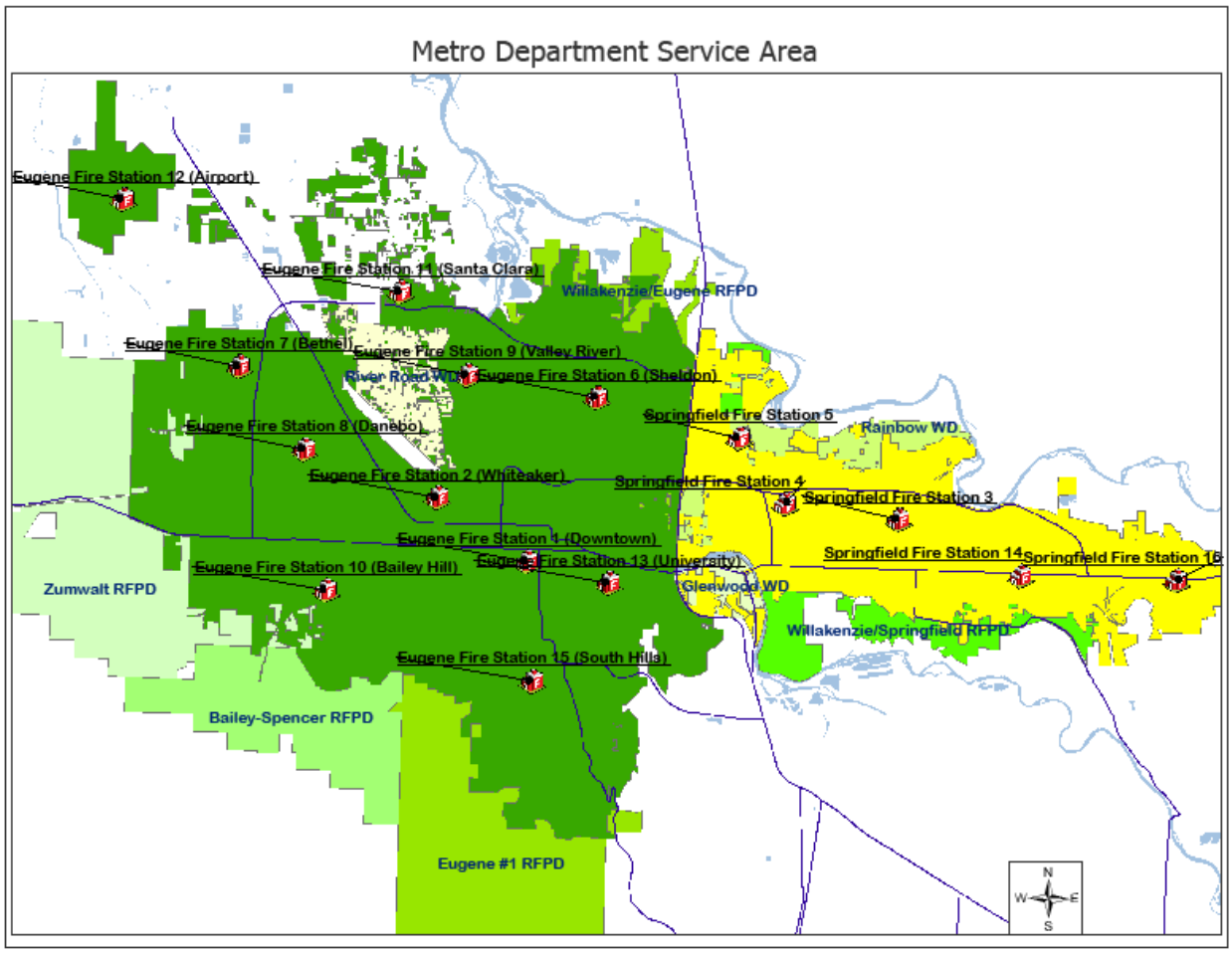
* "swing" unit, staffed by engine crew as necessary

Battalion Three:

Station 3 – "28th Street Station" – 1225 N. 28th Street		**Staffing**
	Battalion Chief 3	1
	Tower 3	3
	Medic 3	2
Station 4 – "5th Street Station" – 1475 5th Street		
	Engine 4	3
Station 5 – "Gateway Station" – 2705 Pheasant Street		
	Engine 5	3
	Medic 5	2
Station 14 – "48th Street Station" – 4765 Main Street		
	Engine 14	3
Station 16 – "Thurston Station" – 6853 Main Street		
	Engine 16	3
	Medic 16	2

A map showing the locations of all Metro fire stations is provided on the following page.

Map 2.1


Metro Department Service Area
Eugene Fire Station 12 (Airport)
Eugene Fire Station 11 (Santa Clara)
Willakenzie/Eugene RFPD
Eugene Fire Station 7 (Bethel)
Eugene Fire Station 9 (Valley River)
River Road WD
Eugene Fire Station 6 (Sheldon)
Springfield Fire Station 5
Rainbow WD
Eugene Fire Station 8 (Danebo)
Eugene Fire Station 2 (Whiteaker)
Springfield Fire Station 4
Springfield Fire Station 3
Eugene Fire Station 1 (Downtown)
Springfield Fire Station 14
Springfield Fire Station 16
Eugene Fire Station 10 (Bailey Hill)
Eugene Fire Station 13 (University)
Glenwood WD
Zumwalt RFPD
Willakenzie/Springfield RFPD
Eugene Fire Station 15 (South Hills)
Bailey-Spencer RFPD
Eugene #1 RFPD
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SECTION THREE: Risk Assessment

Overall community risk management consists of risk assessment and risk control. First, the Metro departments need to identify the magnitude and scope of the risk of fire, life safety, rescue, and medical emergencies, or other hazards that threaten life, safety, property, or the environment. This analysis is based upon both actual and potential losses.

Community Risk Assessment Components

Developing a comprehensive risk assessment involves six key components – fire flow, probability, consequence, occupancy risk, demand zones, and community profile. These apply to all fire, life safety, rescue, first response EMS, and miscellaneous calls for services. In addition, a parallel risk assessment was conducted for ambulance transport. However, in the case of transport, the area served is different, the nature of the service is by definition "not first response," and the goals for response times are set by an outside agency (Lane County).

Fire Flow — the amount of water required to both control and extinguish a fire emergency, based on the contents, square footage, construction type, and the use of combustible materials.

Probability — the likelihood that a particular event will occur within a given period of time. An event that occurs daily is highly probable. An event that occurs only once in a century is very unlikely. Probability is an estimate of how often an event will occur, based on available local historical data.

Consequence — has two primary components: 1) life safety (risks to the lives of occupants and responders from life-threatening situations that include fire, rescue, hazardous substance, and emergency medical events); and 2) economic impact (the loss of property, income, or irreplaceable community assets).

Occupancy Risk — an assessment of the relative risk to life and property resulting from a fire inherent in a specific occupancy or in generic occupancy classes.

Demand Zones — geographic areas utilized to more definitively analyze risk situations. The Metro departments use three primary types of zones for analytical purposes:

Response Zones are based on current fire station locations and correspond to the first-due response area for each of these stations. Fire station placement and resource assignments are determined by desired response time performance, transportation network, population, topography, construction and occupancy character, density, and the relative risk level of a particular neighborhood or area.

Risk Areas are zones identified by the Metro departments based on the degree of risk and the expected level of service to be provided. The two currently designated Risk Areas are defined further in this section.

Ambulance Response Zones are areas within a county-established Ambulance Service Area, for the purpose of measuring response time compliance with the adopted Ambulance Service Area Plan.

Community Profile — an analysis of the attributes of a specific community based on its unique mixture of demographics, socioeconomic factors, occupancy risks, demand zones, historical trends, and level of service currently being provided.

Through a methodical analysis of the risk dynamics present in a community, a risk assessment evaluation makes it possible to develop logical resource deployment strategies to meet the identified needs. The goal of the risk assessment process is to determine the probability of an event occurring, as well as the potential consequences of that event. Decisions regarding resource deployment can then follow in a more logical sequence.

Risk Assessment Matrix

The matrix below shows some of the elements to consider when assessing risk. They are combinations of the probability of an event occurring and the consequences should that event occur. This tool divides risk assessment into four quadrants. Each quadrant of the chart represents different requirements in the community for the commitment of emergency resources.

PROBABILITY	**High Probability** **Low Consequence** *Moderate* *Risk*	**High Probability** **High Consequence** *Maximum* *Risk*
	Low *Isolated Risk* **Low Probability** **Low Consequence**	*High/Special* *Risk* **Low Probability** **High Consequence**

CONSEQUENCES

A community risk assessment may include defining the inherent differences between a single-family dwelling, multiple-family dwelling, large industrial occupancy or commercial campus, and a high-rise residential or commercial structure, and then assigning each occupancy type to a different quadrant of the risk assessment matrix. Fire stations and emergency apparatus may be distributed uniformly throughout the community to provide prompt initial response to all types of incidents, or resources may be concentrated in high-consequence areas to enable a faster large-scale response to an unlikely but highly consequential event. Even when resources are distributed

relatively evenly throughout the community, they may be deployed differently for different types of risk, based on the response needs of each particular incident type, or in considering seasonal changes, special situations or other events.

Service Area Factors Unique to the System

Eugene and Springfield's primary service area for fire and first response EMS calls is contained within the city limits of the respective cities. These areas consist of relatively traditional community distribution pattern featuring a densely developed downtown business core with well-established residential neighborhoods surrounding it. There are areas of industrial and commercial development outside the downtown core as well. This arrangement lends itself reasonably well to a traditional fire station location network based on experiential predictions of emergency incident response patterns.

However, a noteworthy exception is the urban transition area, including the largely unincorporated River Road, Santa Clara and Highway 99 Industrial Corridor areas. The majority of these areas lie within Eugene's Urban Growth Boundary (UGB), and it is anticipated that all properties here will eventually be annexed to the city of Eugene, although a definitive timeline has not been established for this transition to occur. As a result, the area contains a growing number of properties which have been annexed into the city, interspersed among many properties which have not yet been annexed. In the meantime, Eugene Fire & EMS is charged with providing fire protection and EMS first response to only the annexed properties in this larger area, while service to the un-annexed properties is provided by rural fire protection districts.

These noncontiguous annexations have resulted in a growth pattern that does not move out predictably from the existing city limits, but is dispersed in a patchwork fashion throughout the urban transition area. This presents a variety of challenges in seeking to effectively and efficiently meet the service needs of the entire area.

Similarly, Springfield's UGB presents a challenge for future response capability in both the Glenwood Water District and in the Jasper area. Both of these areas represent an opportunity to increase response redundancy through the relocation of existing fire stations. These relocations will enable the departments to be within response time objectives as the development of these areas progress.

In addition to properties within the cities, the Metro departments provide fire protection and EMS first response to the following rural fire protection districts – Bailey Spencer RFPD, Eugene Fire District #1, Glenwood RFPD, Rainbow RFPD, River Road Water District, Willakenzie RFPD, and Zumwalt RFPD. This coverage is provided and maintained through long-standing intergovernmental contracts with each district. With the exception of the River Road Water District, these districts are neighboring rural areas lying mostly outside the Metro departments' established urban growth boundary.

Topography

The topography of the service area protected by the Metro system is widely diverse. The core metropolitan service area is relatively flat, although several buttes and hillside ridges define distinct neighborhoods and a portion of the metropolitan boundary. The Willamette River flows through the center of the cities, while the McKenzie River forms a portion along the northern edge. On the periphery, the terrain becomes more varied and includes rolling to steep hills, as well as broad riparian zones.

Eugene and Springfield contain a significant amount of wildland/urban interface areas in the south hills and southwestern portions Eugene, and the southeastern portion of Springfield. These areas consist of mostly upscale residential development along winding, narrow and steep streets, interspersed within heavily forested areas, all of which contribute to increased response times. In addition, this situation presents a significant fire danger during the dry season in late summer and early fall. Public education on this issue has been and continues to be a priority for the Metro departments, and fortunately, the number of calls for wildfire response service in these areas has remained relatively low.

The rural districts, particularly those to the south and west, are less densely populated and developed. In general they are hilly and forested and often feature long driveways and narrow access roads.

Transportation System and Networks

The streets, roads, and highways within the service areas are the primary means of getting fire, life safety, rescue, and emergency medical resources to incident scenes. The main highways running through the cities are Interstate-5, Interstate-105, Delta Highway, Highway 99 (which includes 6th and 7th Avenues, and Franklin Boulevard), and Highway 126 (McKenzie Highway east of Springfield and includes West 11th Avenue out of Eugene). In addition, other main arterials include Beltline Road, Coburg Road, River Road, Franklin Boulevard, Chambers Street, Jefferson Street, Amazon Parkway, Willamette Street, Roosevelt Boulevard, Main Street, Pioneer Parkway, Gateway Street, 13th, 18th, and 29th Avenues, 28th and South A Streets and Mohawk Blvd. While these transportation routes are usually adequate for the volume of traffic they carry, periods of “rush hour” congestion significantly slow traffic, including emergency response, along these and other peripheral routes.

In 2008, Eugene’s major hospital, Sacred Heart, moved to northwest Springfield. The relocation of the hospital has increased Eugene’s transport and out-of-position time, which has had some effect on response reliability, as well as resource utilization and load. The hospital maintains a reduced-level of operations at its former location in Eugene, and this has created an ongoing added burden in the requirement of additional transports from one hospital location to the other. During this same time period, McKenzie Willamette Hospital, located in Springfield, has increased its capabilities. Sacred Heart at River Bend is certified as a Level II Trauma Center, McKenzie Willamette Hospital is certified as a Level III Trauma Center. Sacred Heart’s University Hospital has no trauma designation.

Within the rural areas served by the Metro departments, limited road networks, varying contours of terrain, private bridges unable to bear the weight of standard fire apparatus, and long, narrow, and winding private driveways further impede response. Absent or inadequate water supply systems in these areas also cause additional fire suppression challenges to emergency responders.

While the cities openly encourage "connectivity," and the Metro departments provide regular input supporting projects that will enhance omni-directional emergency response, several factors that slow or obstruct emergency vehicle response are beyond the departments' control. As the cities becomes increasingly developed and densely populated, more people and vehicles are vying for space on aging streets, leading to an increase in speeding and aggressive driving. In an effort to keep neighborhoods safe and "livable," residents are demanding street designs that slow traffic and/or transfer it to other streets.

Obviously, any design that slows the flow of normal traffic will have a similar impact on emergency response. Metro department personnel work regularly with Traffic Engineering and Transportation staff from both cities to develop compromise solutions that seek a balance between safe neighborhood streets and adequate emergency vehicle access. However, it is inevitable that the trend toward more traffic calming devices will result in further increases in emergency response times.

The Fire Marshal's Office in Springfield is the main point of contact on all fire department emergency access issues within the Springfield Urban Growth Boundary. The Glenwood Refinement Plan is in draft form awaiting input from City departments and final approval by City Council. The conceptual road network for Glenwood is currently under review by the Springfield Fire & Life Safety Department to ensure compliance with operational requirements and apparatus capability.

In the early 1980s and1990s, Springfield and Eugene began the implementation of a citywide traffic signal pre-emption system designed to allow a fire, rescue, or EMS vehicle to request and receive a green light as it approaches a controlled intersection while on an emergency response. At a considerable investment by the cities, all traffic signals in the Metro service area are now equipped with this system, and all emergency response vehicles are equipped with the appropriate signal emitters. While this system enhances the ability to respond to emergencies faster and with greater safety for everyone sharing the road, its benefit is being gradually reduced by the regular addition of new traffic calming designs throughout the Metro area.

Development and Population Growth

The 2011 population estimate for the City of Eugene is 157,010 (source: Portland State University Population Research Center, July 1, 2011 certified estimate). This reflects an annual average increase of 1.19 percent between 2000 and 2011.

In 1970, the population within the city limits was 69 percent of the total population in the Eugene Urban Growth Boundary. By 2010, this figure had increased to 88 percent. In 1990, 5.8 percent of all persons residing in the River Road/Santa Clara area lived within the city limits of Eugene.

By 2000, this percentage had increased to 26 percent, and the 2010 Census now puts that figure at 38 percent.

Growth within the Eugene UGB has not been uniform. Population declined in the West University, Fairmount, and Friendly neighborhoods during the 1990s, but increased in the 2000s. Generally, the greatest growth in the 1990s occurred in the Willakenzie, Bethel, and Santa Clara areas. The trend continued into the 2000s for growth in these areas. A more detailed analysis of Eugene neighborhood population trends, which includes 2010 Census data analysis, will be available from Eugene's Planning & Development Department in February 2012. This analysis and its connections to Metro department services will be evaluated for the fiscal year 2012 Standards of Response Coverage.

Eugene's population within the UGB in 2011 is estimated to be 179,000. Springfield's population within the UBG in 2011 is estimated to be 68,000. By 2025, the total population within the combined Urban Growth Boundary area is projected to reach approximately 281,836. The projection for 2035 is 303,887. (These projections come from Lane County Ordinance PA-1255, adopted 17 June 2009.)

The 2010 population for the City of Springfield was 59,395 (source: 2010 Census data). This reflects an annual average increase of 1.17 percent between 2000 and 2010.

In 1970, Springfield's population was 26,874, with steady increases throughout the 1970's and 1980's. With annexations, Springfield annexed most land area in the county over this same period, some 730 acres and 463 people. In the 2002-2007 timeframe, 1,051 dwelling units were added in the Springfield service area. This increase (6.20 percent) is slightly less than the rise in population. Since 2007, another 596 dwelling units have been added to Springfield, while 1872 were added to Eugene since 2007.

Density is increasing throughout the Springfield area, and higher concentrations of population are appearing in areas that historically have not had population centers. Examples include the infill development in the Jasper Road area, Riverbend areas north of Harlow Road, the Glenwood area, and the older commercial areas.

The Jasper-Natron Development and Riverbend Hospital and Master Plan area will continue to produce large impacts in the next ten years. These large projects will also change the resources needed to service these areas.

Water Supply

Eugene Fire & EMS maintains more than 4,500 public fire hydrants, nearly all within the city limits of Eugene. In addition there are several hundred private hydrants checked by department personnel and maintained by the individual occupancies they supply. The volume and pressure of both the public and the private hydrants in the system are excellent. During normal fire ground operations there is typically no problem acquiring and maintaining adequate fire flows. However, this is not true of those portions of the city which lie at higher elevations, particularly the South Hills, where water is supplied from reservoirs. Further, some areas above these reservoirs are

supplied by electric booster pumps, resulting in decreased volume and pressure being available for firefighting operations in these areas. The Eugene Water & Electric Board has worked hard over the last few years to connect reservoirs at higher elevations with additional mains and pump stations that have increased fire flow and have emergency generators in the event of a power failure.

There are three water purveyors within the Springfield Urban Growth Boundary (UGB) that provide an interconnected and well-supplied water system for the City and fire contract areas. The three purveyors are Springfield Utility Board, Rainbow Water District and Glenwood Water District. Springfield Utility Board (SUB) provides maintenance on all publicly-owned fire hydrants within their service area, in accordance with the American Water Works Association (AWWA), and in compliance with current Insurance Services Office (ISO) standards. Through an intergovernmental agreement with the City of Springfield, SUB and the City work together to ensure Springfield water quality standards are maintained and a consistent supply of water is available for emergency services. The volume and pressure of all SUB hydrants in the system is excellent. During normal fire ground operations there is typically no problem acquiring and maintaining adequate fire flows. SUB also provides maintenance resources and manages the status of the Glenwood Water District facilities. The Rainbow Water District provides for the water requirements of the unaannexed areas of north and west Springfield. Rainbow wells and facilities are well-maintained and also meet the requirements of ISO and AWWA for quality and function.

For the most part, the rural areas do not have fire hydrants in place. For this reason, Eugene Fire & EMS maintains two water tenders (tanker trucks), and Springfield Fire & Life Safety maintains one water tender, to assist in firefighting in outlying areas. The Metro departments also maintain several portable pumps to supply water for firefighting purposes in rural areas. In addition, the Metro departments have developed mutual and automatic aid agreements with surrounding rural fire districts designed to enhance the ability to shuttle large amounts of portable water to the scene of fires occurring in these areas.

Average Area Protected by Initial Response Companies

The Metro departments' entire fire first response area is 107.1 square miles. Its first response needs are served by fifteen fire stations (Airport station equipment and personnel are not available to respond to incidents off airport property – approximately 2.5 square miles). Therefore, the average area covered by each station is just under seven square miles.

Types of Calls to Which the Metro Departments Respond

Response requests are distributed among three main call types – Fire, EMS, and Other – by sorting based on dispatch activity descriptions. These call types are further divided as follows:

Table 3.1 Total Calls for Service by Type of Call

FIRE	FY09	%Total	FY10	%Total	FY11	%Total
Structure	384	1.2%	324	1.1%	347	1.1%
Brush	437	1.4%	278	0.9%	235	0.7%
Vehicle	171	0.5%	147	0.5%	134	0.4%
Other	1,685	5.2%	1,341	4.4%	1,388	4.2%
Subtotal	2,677	8.3%	2,090	6.9%	2,104	6.4%
EMS						
Emergency	18,191	56.7%	17,557	57.6%	21,168	64.8%
Non-Emergency	6,270	19.5%	5,812	19.1%	6,228	19.1%
Subtotal	24,461	76.2%	23,369	76.7%	27,396	83.8%
OTHER						
Haz Mat	105	0.3%	117	0.4%	92	0.3%
Public Assist.	2,212	6.9%	2,078	6.8%	2,067	6.3%
Rescue	2,042	6.4%	2,002	6.6%	245	0.7%
Other	600	1.9%	818	2.7%	771	2.4%
Subtotal	4,959	15.5%	5,015	16.5%	3,175	9.7%
TOTAL	**32,097**	100.0%	**30,474**	100.0%	**32,675**	100.0%

· Call statistics are gathered separately for Eugene and Springfield, and when combined as in the chart above, the totals will be slightly high due to duplication of incidents on which both Eugene and Springfield units respond to.

This distribution pattern illustrates a major challenge in providing service to the Metro departments' diverse service area. As with most fire departments today, the large majority of calls are medical, and the demand for service is driven less by the characteristics of the fixed real property involved (land and buildings) than by the people, whose distribution does not necessarily correspond to the distribution of real property. Moreover, human beings are highly mobile; thus demand for service in a particular area can and does change frequently depending upon the time of day, day of week, specific season, special event, or as other significant and long-term demographic shifts occur.

Risk Evaluation – General

The Metro departments have identified specific risks in certain portions of their service area and deployed resources matched appropriately to those risks. One is the placement of water rescue equipment and trained personnel at the stations nearest major launch points along the Willamette River for use in water rescue incidents. The Metro departments continue to evaluate the placement of water rescue personnel and apparatus, currently deployed from two locations with

one in each city, in light of historical performance. In the future, deployment evaluations may result in the deployment of additional water rescue resources from a third location.

A second risk-based deployment is the placement of highly maneuverable four-wheel-drive brush engines for steep terrain and off-road operation in the wildland interface zones and rural areas, as well as water tenders (water tanker trucks) for prompt deployment to fires in non-hydranted areas of the Metro departments' fire protection contract districts.

A third is the placement of trained personnel and specialized equipment at the aircraft rescue and fire fighting (ARFF) station located on the grounds of the Eugene Airport. This station has now been relocated to provide for a three-minute response to the midpoint of either of the airport's two major runways

Finally, construction of new high-rise buildings in the response areas is continually monitored, and the placement of the Metro departments' aerial ladder resources may be modified in the future, again based on risk analysis.

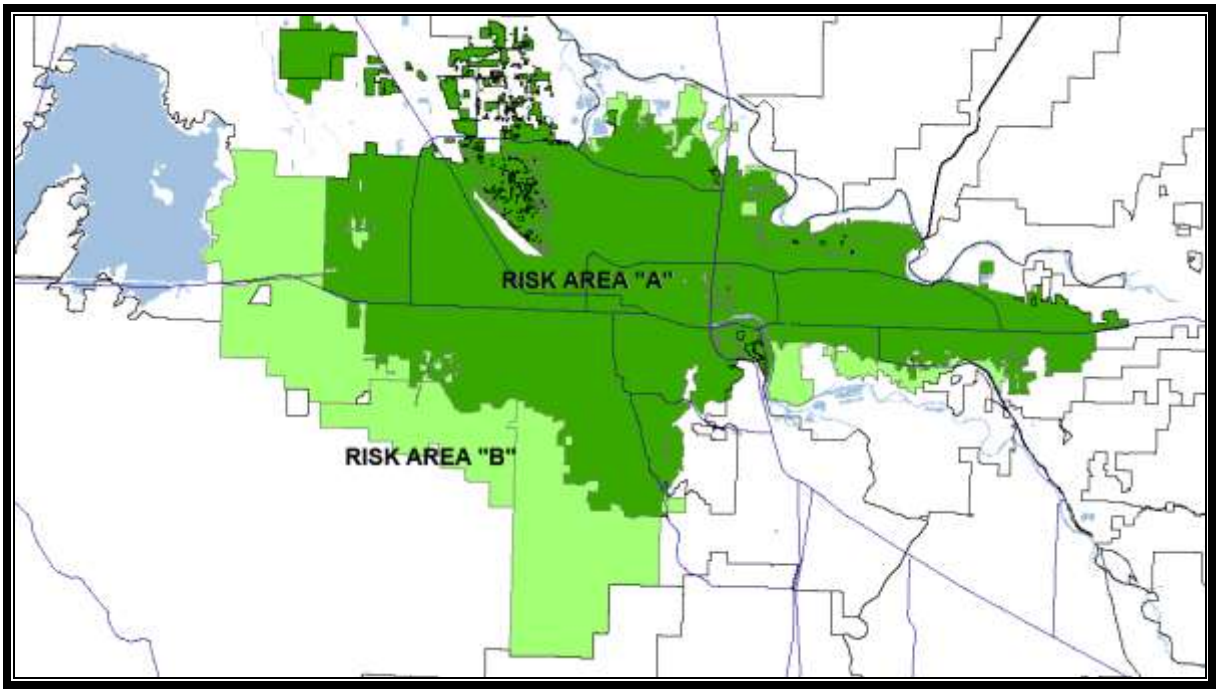
For the most part, however, the various types of structures and occupancies at various risk levels in the Metro departments' service areas do not fall neatly into small geographic units that would warrant specific resources needed only in those areas. Instead, the Metro departments have evaluated actual performance and infrastructure, and classified their service areas into two distinct response zones making up their fire protection service areas. Within these zones, pre-determined response assignments vary according to type of call and structure or property involved. The two zones are:

- Risk Area "A." All territory classified as Risk Area "A" lies within the Eugene and Springfield city limits. This area, while varying somewhat in density and land use, has a relatively high occurrence of industrial, commercial, and residential structures.

- Risk Area "B." Territory classified as Risk Area "B" includes the mainly rural property in the seven rural fire protection districts served by the Metro departments that lie predominantly outside the UGB. These areas contain primarily agricultural or forest land and associated structures, with some rural residential development. For the most part, these areas are not served by municipal water systems, nor are they equipped with a fire hydrant network.

The map on the following page shows the boundaries of these two risk areas.

Map 3.1 Map of Risk Areas "A" and "B"



Buildings in the Metro Fire Protection Area

For the purpose of this report, data were gathered from the Lane County Regional Land Information database, which is maintained by the Lane Council of Governments (LCOG). This database tracks land use or inspection category and not buildings per se. Therefore, the following figures represent the Metro departments' best calculation of the number of buildings currently being protected.

Table 3.2 Buildings by Occupancy Type

Eugene

Buildings by Occupancy Type	Risk Area "A"	Risk Area "B"
Single-Family Residential	41,066	1,267
Multi-Family Residential	29,732	30
Group Residential	342	1
Government	263	0
Religious/Charitable	229	9
General Services	3,139	14
Educational Facilities	321	2
Industrial	595	3
Retail & Wholesale	1,963	8
Communication	59	11
Other	4755	413
Totals	**82,464**	**1,758**

Springfield

Buildings by Occupancy Type	Risk Area "A"	Risk Area "B"
Single-Family Residential	15,452	608
Multi-Family Residential	8,925	16
Group Residential	32	0
Government	85	0
Religious/Charitable	117	2
General Services	741	2
Educational Facilities	49	0
Industrial	159	2
Retail & Wholesale	730	1
Communication	18	0
Other	3183	202
Totals	**29,491**	**833**

It should be noted that the figures shown above for residential occupancies represent a best estimate for number of structures rather than number of individual dwelling units.

The following figures are for number of dwelling units:

Table 3.3 Dwelling Units in Fire Risk Areas

	Eugene	Springfield
Risk Area "A"	72,943	27,282
Risk Area "B"	1,563	821
Total Dwelling Units	**74,506**	**28,103**

High-rise structures pose a unique set of challenges in performing firefighting operations. The associated life risk and high density of occupants, the challenge of marshaling personnel and equipment aloft, and the development of support systems needed to sustain a high-rise firefighting operation all combine to require high-rise fires to be managed differently from other firefighting operations.

High-rise structure locations are a key consideration in decision-making around apparatus placement, especially the Metro departments' three staffed ladder truck companies. During the past year, several new high-rise structures have been completed in the Eugene-Springfield metro area, and more are planned. Metro department truck companies are deployed at Fire Station 1 (Downtown), Fire Station 2 (Whiteaker) and Fire Station 3 (28th Street). Station 1 is located in Eugene's downtown core area, close to the university district, which together account for the majority of Eugene's high-rise structures. Station 2 is positioned further to the west in central Eugene, which contains the city's largest industrial area. Station 3 is centrally-located, which allows for more consistent and timely truck response throughout the Springfield area.

The collaborative partnership between the Metro departments incorporates a metropolitan approach to deployment, and so high-rise construction in either city may have a bearing on future truck company deployment. However, although truck companies are essential in high-rise operations, they are also integral to successful low-rise structure firefighting and many other types of emergency operations because of the equipment carried and the additional level of training the firefighters working on these companies receive.

Risk Classifications – Specific

Analytical techniques can be utilized to stratify risks into more definitive risk categories and determine the values exposed to loss, the probability of an event occurring, and the consequences that such an event may have on the community. Primary risk liability falls into five general categories in order of severity – life risk, community economic risk, environmental risk, historical risk, and dollar loss. Since life risk and community economic risk are of primary importance, nearly all property associated with those risk categories is included in the Metro

departments' Risk Area "A" response zone and, to a lesser extent, the Risk Area "B" zone. Following are descriptions of the five general risk classification categories:

1. Life Risk: Any location that presents a high risk of life loss, such as high-density housing (particularly unsprinklered, high-rise and older remodeled structures), foster care homes, skilled nursing facilities, hospitals, housing within close proximity to hazardous manufacturing or storage, day care centers, and schools.

2. Community Economic Risk: Those facilities that have a high dollar value and, if destroyed or damaged by fire, could close or relocate, permanently or temporarily placing a severe economic burden on the community through the loss of jobs and/or tax revenue. This category also includes critical infrastructure of primary importance to the economic health and safety of the community, such as utilities, roads, and bridges.

3. Environmental Risk: Any area where a high risk of severe or permanent environmental damage would likely occur in the event of a fire or hazardous materials release.

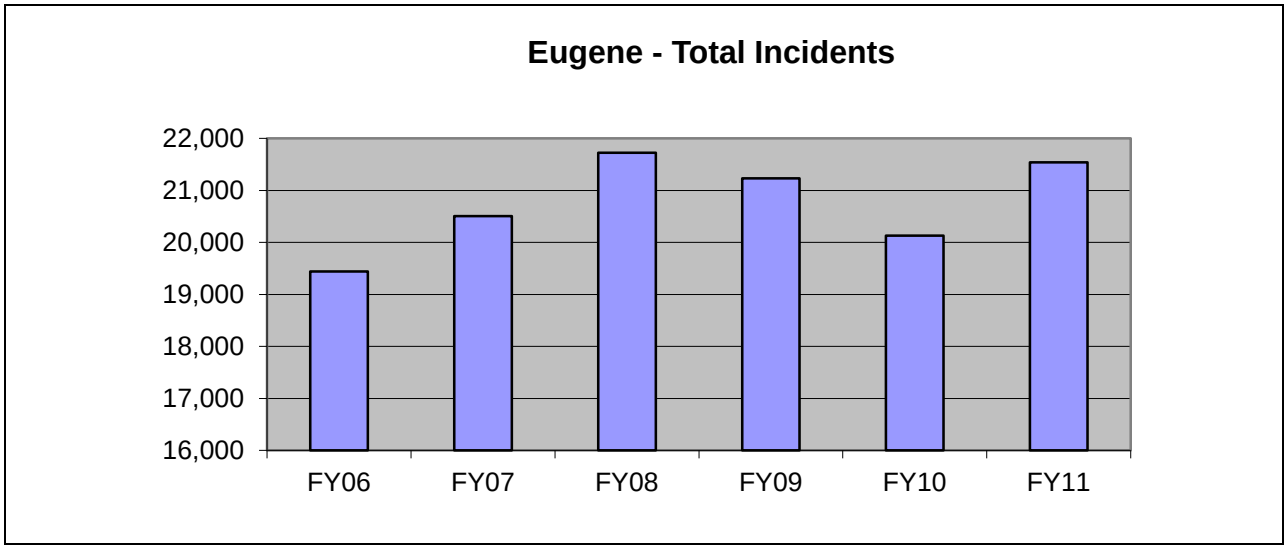
4. Historical Risk: Any structure or property of significant historical value to the community.

5. Dollar Loss: Structures that have a high value yet pose a low risk of life loss or community economic impact and are typically fully-insured against accidental loss. Examples of dollar loss structures are large rural residential and farm structures, as well as some commercial buildings primarily housing large inventories of merchandise.

Probability Analysis

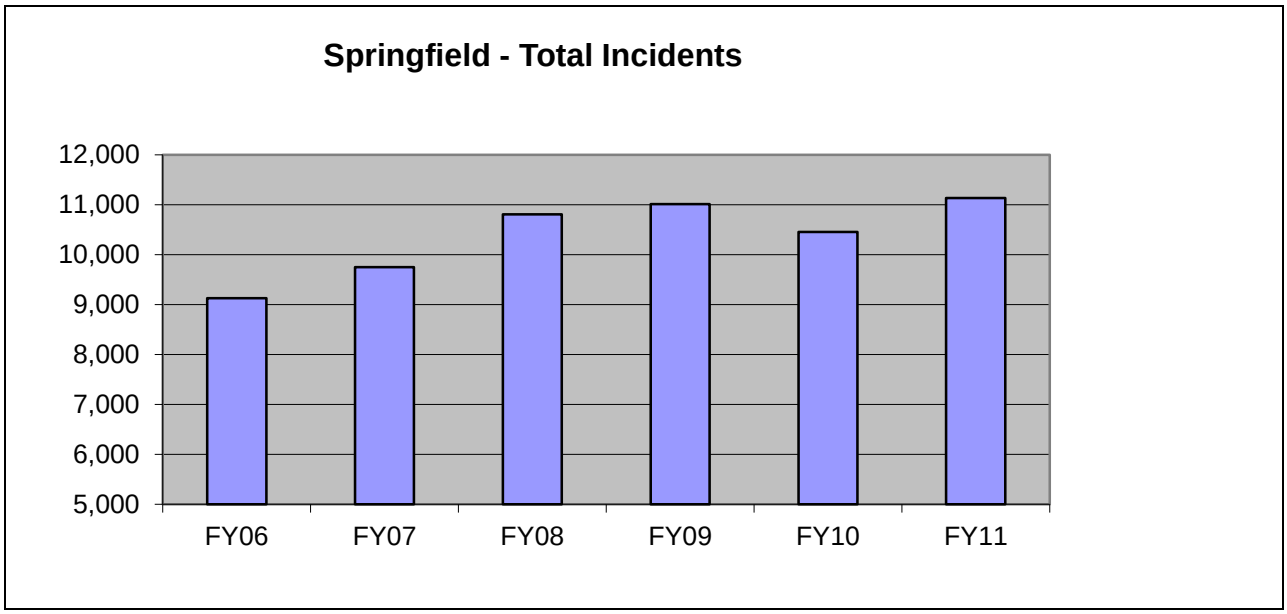
Figures 3.1.1 and 3.1.2 below show the frequency of total incidents for Eugene and Springfield from fiscal year 2006 to fiscal year 2011. The tables below Figures 3.1.1 and 3.1.2 also include the daily average calls for service for the same timeframe using a 24-hour shift day. All data, unless otherwise noted, are obtained from computer-aided dispatch (CAD) records.

Figure 3.1.1 Total Fire & EMS Incidents by Year



Eugene	Total	Daily Avg.
FY06	19,441	**53**
FY07	20,509	**56**
FY08	21,723	**59**
FY09	21,233	**58**
FY10	20,130	**55**
FY11	21,539	**59**

Figure 3.1.2 Total Fire & EMS Incidents by Year



Springfield	Total	Daily Avg.
FY06	9,130	**25**
FY07	9,752	**27**
FY08	10,806	**30**
FY09	11,014	**30**
FY10	10,344	**28**
FY11	11,136	**31**

The Metro departments classify incident types as follows:

- Fires
- EMS First Response
- Hazardous Materials Incidents
- Rescues (includes a variety of specialized rescue scenarios)
- Miscellaneous calls
- Public Assists
- Mutual Aid
- Ambulance Calls (first response provided by another agency)
- Medical Transport

In analyzing each type of incident, the Metro departments evaluated the frequency of incidents over time, as well as a temporal analysis of aggregated data, to determine the demand patterns for response services at various times of the day. Data from the past three fiscal years were used in this analysis.

Of note here is the fact that "Medical Transport" occurs on calls that are already counted as incidents within other service categories. The medical transport numbers are included in this report because an increase in transports will adversely impact the amount of time ambulances are available to respond to other calls for service.

Frequency of Calls

Fire Incidents

Table 3.4 summarizes fire incidents by type, total number of fire responses annually, and the daily (24-hour) average for each year. These were calculated using activity descriptions within the current CAD system to ensure that all calls were included. A limitation of this system is that it utilizes call types as determined by the dispatcher based on information provided by the caller, and in some cases this may differ from the actual nature of the call as reported by the company officer in the Incident Reporter database.

Table 3.4 Frequency of Fire Incidents

Eugene

FIRE	FY09	FY10	FY11
Structure	261	228	224
Brush	316	206	165
Vehicle	119	93	91
Trash	70	49	61
Miscellaneous	274	155	156
Smoke	156	122	131
Total	**1,196**	**853**	**828**
Daily Average	**3.3**	**2.3**	**2.3**

Springfield

FIRE	FY09	FY10	FY11
Structure	123	96	123
Brush	121	72	70
Vehicle	52	54	43
Trash	14	11	14
Miscellaneous	71	68	73
Smoke	69	56	48
Total	**450**	**357**	**371**
Daily Average	**1.2**	**1.0**	**1.0**

Automatic Fire Alarms

Automatic fire alarms are included here because they necessitate an emergency response. Statistically, however, nearly all automatic fire alarms are false reports. Consequently, many of these calls result in a "disregard" or cancellation of the responding unit(s) while still en route, when a responsible party confirms that there is no fire and no response is needed. These calls generally consist of alarm system activations where the system malfunctioned, was inadvertently activated, or was being worked on and the notification system failed. If the situation was

determined to be a structure fire, or if there was another legitimate reason for the alarm, such as smoke, the call would typically be recorded in one of the other incident categories.

The following table shows the number of automatic fire alarms, including those where no fire or damage occurred, and those where there was damage of some form (e.g., water from sprinkler system malfunction, smoke from small fire that had been extinguished by worker prior to Metro department crews arrival, overheated or shorted electrical equipment, etc.).

Table 3.5 Frequency of Automatic Fire Alarms

Eugene

	FY09	FY10	FY11
No Damage	802	840	863
Damage	2	4	5
Total	**804**	**844**	**868**
Daily Average	**2.2**	**2.3**	**2.4**

Springfield

	FY09	FY10	FY11
No Damage	295	214	215
Damage	1	0	1
Total	**296**	**214**	**216**
Daily Average	**0.8**	**0.6**	**0.6**

EMS Incidents

As stated previously, the majority of calls for service are medical in nature. The Metro departments currently respond to approximately 75 such incidents each 24-hour period. Beginning in August 2002, all staffed engine companies were assigned at least one paramedic, and outfitted with a complete inventory of advanced life support equipment, providing the cities and their protection districts with consistent paramedic first response capability on all incidents.

Table 3.6 Frequency of EMS Incidents

Eugene

	FY09	FY10	FY11
Total	15,889	15,180	17,824
Daily Average	43.5	41.6	48.8

Springfield

	FY09	FY10	FY11
Total	8,572	8,189	9,572
Daily Average	23.5	22.4	26.2

Hazardous Materials Incidents

Eugene Fire & EMS serves as one of the State of Oregon's 14 regional Hazardous Materials Response Teams, covering all of Oregon Region 2, which includes all of Lane County and a small section of Deschutes County, as well as backup support to the rest of the state. Hazardous materials calls, like all infrequent call types, are not evenly distributed over time. We have experienced irregular, although small, yearly increases and decreases in the past for this response type.

Table 3.7 Frequency of Hazardous Materials Incidents

Eugene

	FY09	FY10	FY11
Total	78	85	71
Daily Average	0.2	0.2	0.2

Springfield

	FY09	FY10	FY11
Total	27	32	21
Daily Average	0.1	0.1	0.1

Rescue Incidents

Examples of rescue calls include auto accidents, other accidents, water rescue, and technical (high angle, collapse, or cave-in) rescue.

Table 3.8 Frequency of Rescue Incidents

Eugene

	FY09	FY10	FY11
Total	1,342	1,303	148
Daily Average	3.7	3.6	0.4

Springfield

	FY08	FY09	FY11
Total	752	700	97
Daily Average	2.1	1.9	0.3

Miscellaneous Calls

Examples of miscellaneous calls include downed power lines, medical standbys, noxious odor investigations, and suspicious conditions. They do not fit neatly into other categories, yet they represent important and ongoing services being provided to the community.

Table 3.9 Frequency of Miscellaneous Incidents

Eugene

	FY09	FY10	FY11
Total	375	421	342
Daily Average	1.0	1.2	0.9

Springfield

	FY09	FY10	FY11
Total	156	219	250
Daily Average	0.4	0.6	0.7

Public Assistance Calls

In addition to medical, fire, and rescue calls, the Metro departments respond to requests for various types of public assistance. These include calls such as lifting assistance for patients in private residences or foster care facilities, leaking fire hydrants, and assisting local law enforcement agencies.

Table 3.10 Frequency of Public Assistance Incidents

Eugene

	FY09	FY10	FY11
Total	1,549	1,444	1,458
Daily Average	4.2	4.0	4.0

Springfield

	FY09	FY10	FY11
Total	663	634	609
Daily Average	1.8	1.7	1.7

Mutual and Automatic Aid Incidents

The Metro departments maintain a broad network of mutual and automatic aid agreements with surrounding jurisdictions. Mutual aid defines services provided to another area at the specific request of the jurisdiction having authority, and is granted whenever doing so will not leave areas of primary responsibility with an inadequate level of remaining protection. Automatic aid refers to agreements that provide a pre-determined level of cross-jurisdictional response support, usually in boundary areas, without the need for a specific request. The following table shows the number of times and the daily average that Metro departments responded for mutual or automatic aid to other jurisdictions. Over the course of the past few years, the Metro departments have developed shared operating procedures and protocols to the extent that a joint response pursuant to the jurisdictions' automatic aid agreement is routine under what we have termed the 3-Battalion System. However, such a response, when the incident occurs in Springfield, is still recorded by Eugene as an automatic aid call and vice versa.

Table 3.11 Frequency of Mutual and Automatic Aid Incidents

Eugene

	FY11
Total	1,180
Daily Average	3.2

Springfield

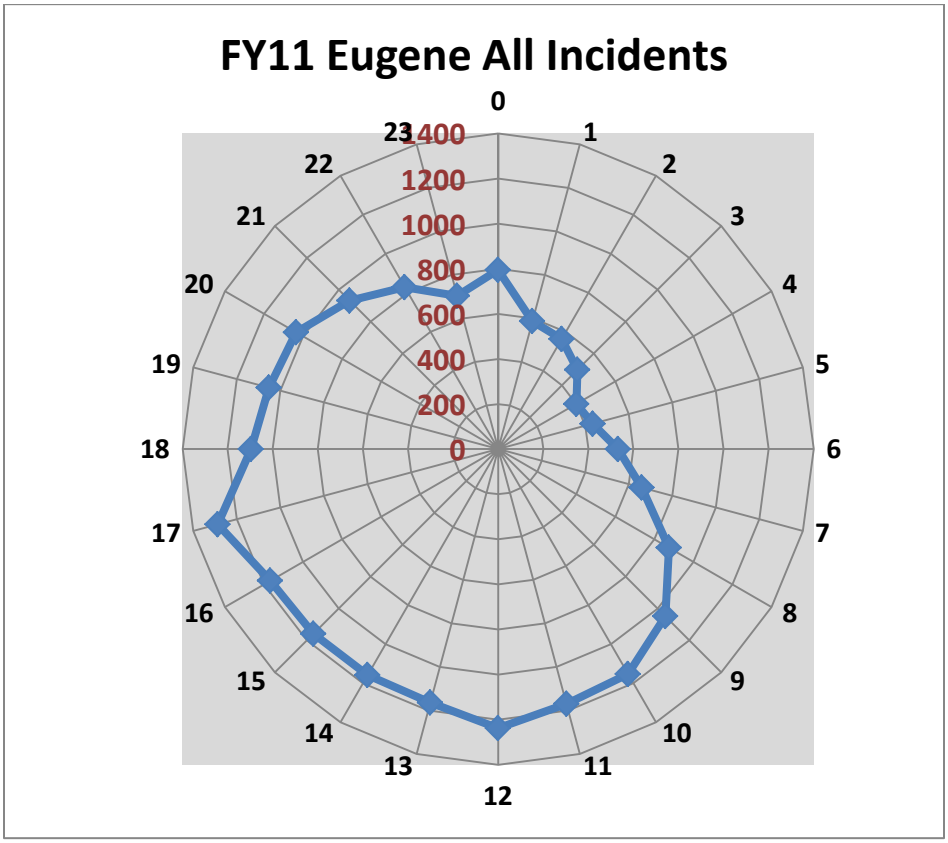
	FY11
Total	1,483
Daily Average	4.1

· In fiscal year 2011, the definition of mutual aid changed to any time an engine or truck crew is outside of Eugene or Springfield, plus their respective contract fire district, as well as any medic unit outside of its ASA, therefore, this table shows the frequency of mutual and automatic aid incidents for 2011 only.

Temporal Distribution of Calls

Calls for service are not distributed uniformly throughout a 24-hour period. The following radius graphs display the temporal distribution of calls for service, using the same classification outline found in the frequency analysis. The figure below shows the volume for all responses made by the departments in fiscal year 2011 by time of day using a 24-hour clock.

Figure 3.2 Temporal Distribution of All Incidents



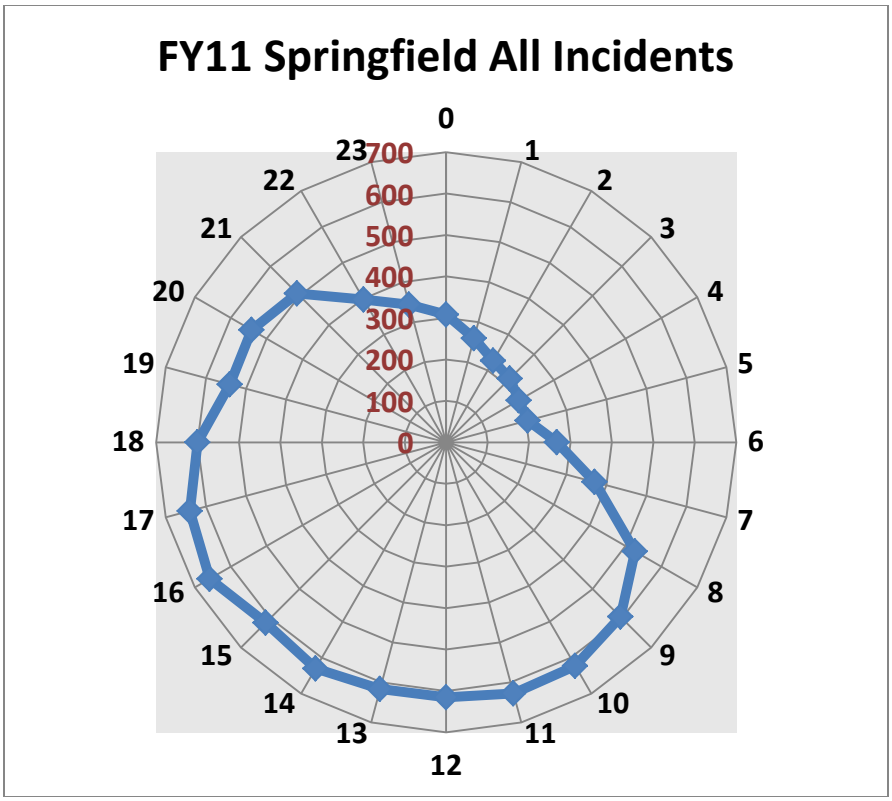
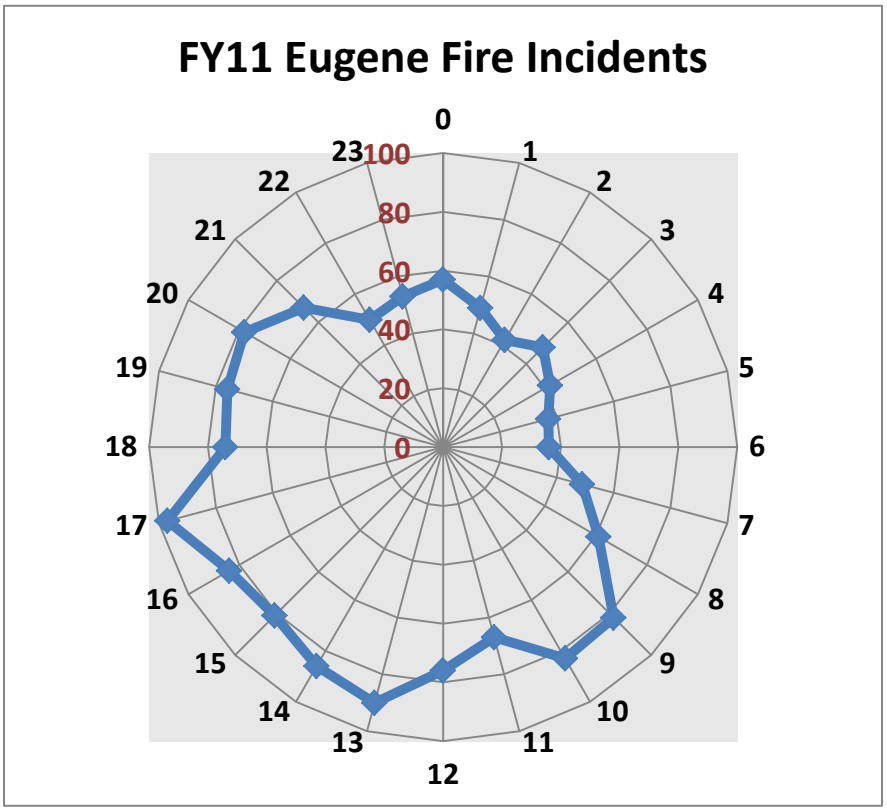

FY11 Springfield All Incidents
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
700
600
500
400
300
200
100
0

Figure 3.3 Temporal Distribution of Fire Incidents



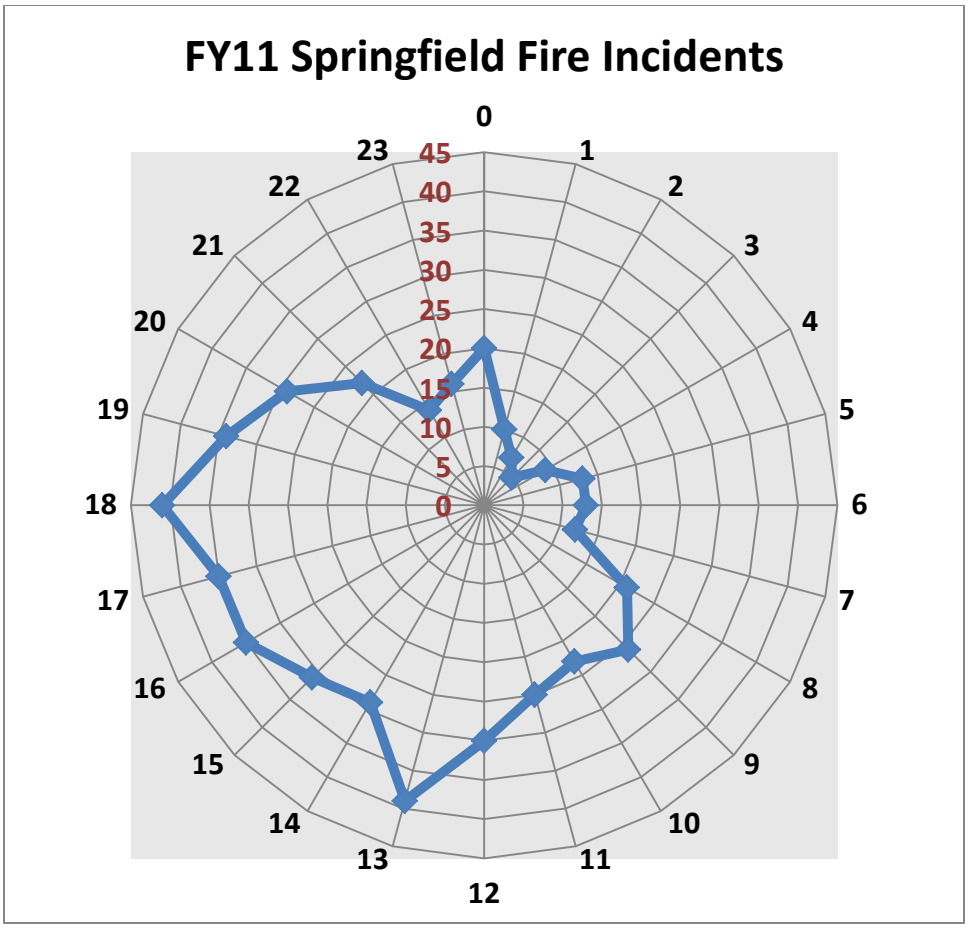
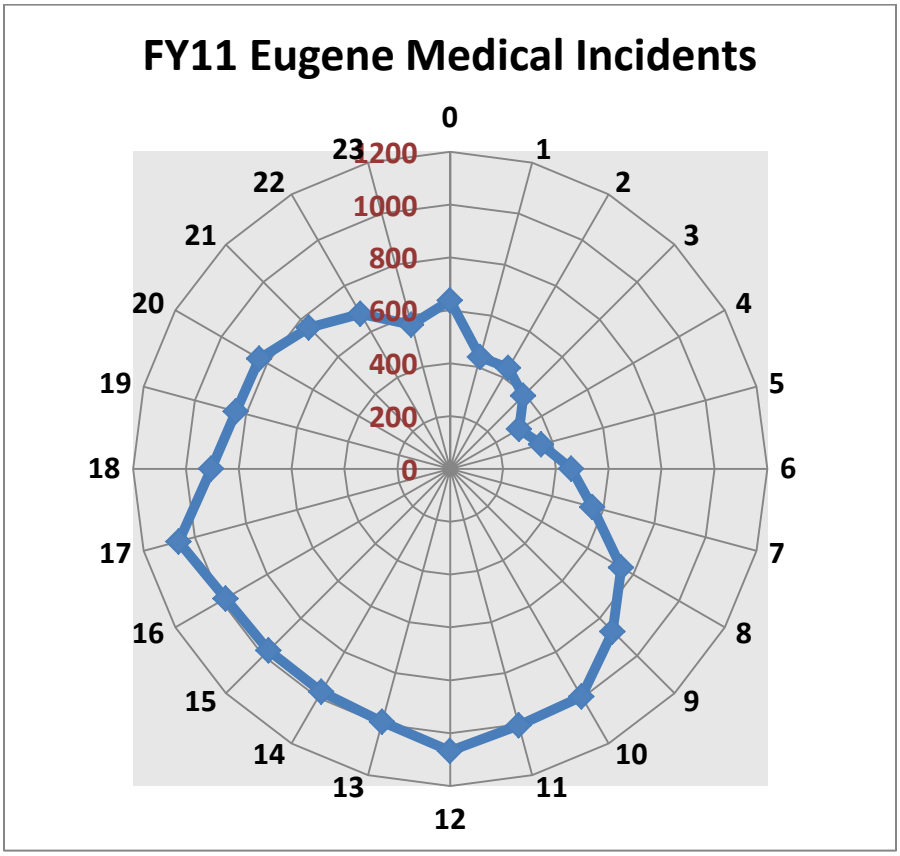
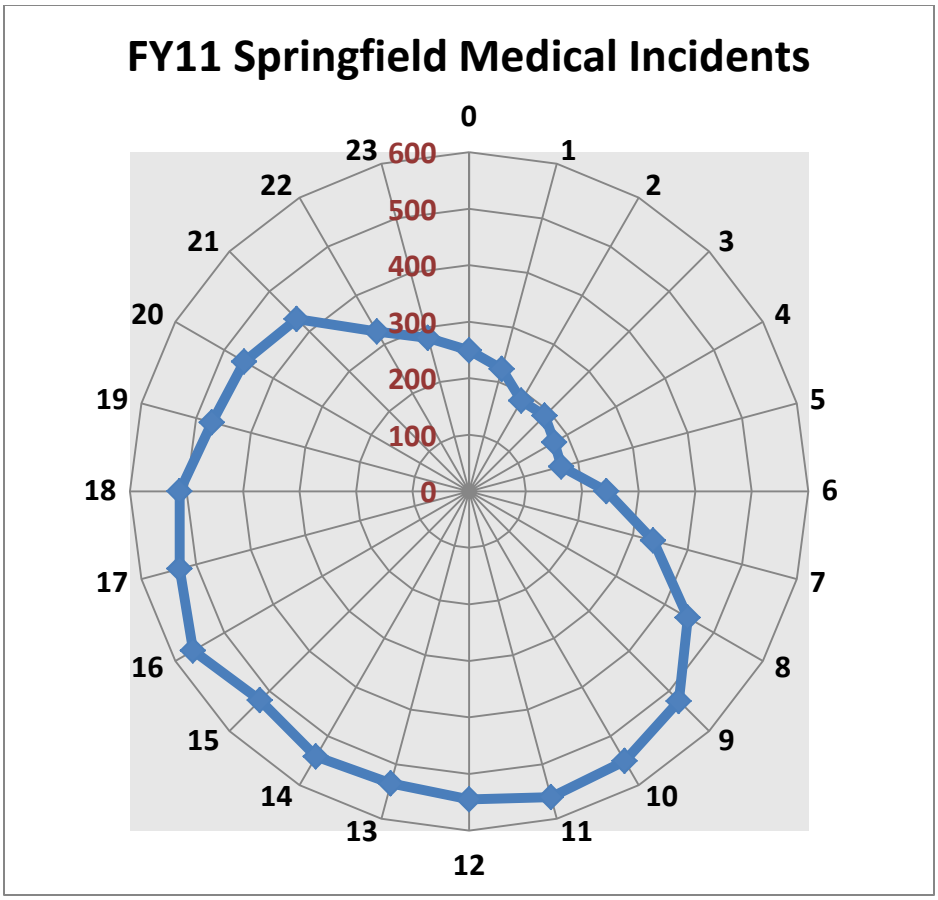

FY11 Springfield Fire Incidents
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
45
40
35
30
25
20
15
10
5
0

Figure 3.4 Temporal Distribution of Medical Incidents





Risk Evaluation – Ambulance Transport

The Metro departments operate an ambulance transport service which has been in continuous service since 1981. The departments are the authorized advanced life support ambulance providers for the West Central Ambulance Service Area (ASA #4) and East Central Ambulance Service Area (ASA #5) of Lane County. This type of designation is made by counties for all ASAs in Oregon, under the authority of the Department of Health & Human Services. The Metro departments' ASAs represent a significantly larger geographical protection zone than the two cities' fire and first response EMS service areas.

The ambulance transport system includes six 24-hour dual-role units, one peak load unit, and a 24-hour "swing" unit (dispatched on a last-out basis, and staffed by an engine company). In 2008, the system was enhanced by the location of a Life Flight air medical transport helicopter at the Eugene Airport. Life Flight Base #5 has now been relocated to the Emergency Services Training Center Campus contributing to the larger vision of developing a regional fire, rescue and emergency medical services delivery system. Life Flight is available 24 hours per day for remote rescue and long-range interfacility transport services.

A top priority of the Metro departments is to develop the means to sustain our ambulance transport system and deploy enough ambulances on the street to meet our workload and call volume. Simply stated, we are operating our ambulance transport system at both financial and

resource capacity deficits. Without any intervention, sustaining the Central Lane ambulance transport system is in severe jeopardy.

As previously mentioned, a joint intergovernmental task force, with elected official representation from three ambulance service providers (the Metro departments and Lane Rural Fire/Rescue) in the region and the Lane County Board of Commissioners, met throughout 2009 to study the issues with the Central Lane ambulance transport system, and develop recommendations for providing sustainable service. Those recommendations, including General Fund support and the possible formation of a fire and ambulance district (or annexation to an existing district) are still being considered by the full elected governing bodies, as staff take preliminary steps towards a "functional consolidation" to reduce costs and provide for metro-wide service efficiencies. Additionally, a second joint intergovernmental task force is currently meeting to further study the issues and make recommendations.

Recently, Lane County Code Chapter 18 language was amended to match the Oregon Administrative Rules so that all ambulance transports are regulated by the ASA holder(s). The most significant implications of the amendments relate to non-emergency interfacility ambulance transports, including out-of-area interfacility transports, primarily to and from Springfield's two hospitals. For these levels of calls, Eugene and Springfield have subcontracted with a private provider, Rural Metro Ambulance, for certain categories of non-emergency medical transports. Subcontracting these levels of calls not only improves the overall system capacity, but also allows the firefighter-staffed medic units to respond to a greater percentage and variety of emergent calls while reducing the demand on those resources for non-emergent transports.

The long-term structural financial deficit that the transport service faces is primarily attributable to the reduced levels of reimbursement the Metro departments receive from Medicare (federal) and Medicaid (state) for qualifying patient transports. These decreases have been phased in by the federal government since the passage of the Balanced Budget Act of 1997, which shifted much of the financial burden for covered patient transports from the federal government to local providers. The problem was then exacerbated with the Medicare Modernization Act of 2003, which further reduced reimbursements.

In addition to the write downs associated with Medicare and Medicaid, the Metro departments also provide transport service to patients who are uninsured, underinsured and unable to privately pay for their transport costs. These calls create a level of bad debt which frequently requires the two cities to initiate collection efforts. Uncollectible debt impacts our ability to cover the overhead costs of our system. It is important to note that the financial shortfalls facing the ambulance transport system in Lane County are shared nationally.

The following table shows the numbers of calls when patients were actually transported, not necessarily the total number of patients.

Table 3.12 Frequency of EMS Transports

Eugene	FY09	FY10	FY11
Transports	10,846	9,913	11,020
Daily Average	**28**	**27**	**30**

Springfield	FY09	FY10	FY11
Transports	6,780	6,230	6,709
Daily Average	**19**	**17**	**18**

ASA Response Zones

The Lane County Health & Human Services Department developed an Ambulance Service Plan which has been adopted by the Board of County Commissioners. This plan calls for each ambulance service provider in the county to report quarterly on its ambulance response times for emergency calls. Response time goals are set for various zones, based on population density, proximity to urban areas, terrain, transportation networks, and expected travel time to the area.

Zones 1, 2, 3, and 4 in each ASA correspond roughly to the State of Oregon's established urban, suburban, rural, and frontier designations. ASA #4 (Eugene) contains only three zones, since it has no identified frontier territory, and no portions of the ASA that are expected to have greater than a 45-minute response time. ASA #5 (Springfield) contains all four zones with a large frontier territory that could have greater than a 120-minute response time. Response zones are generally described as:

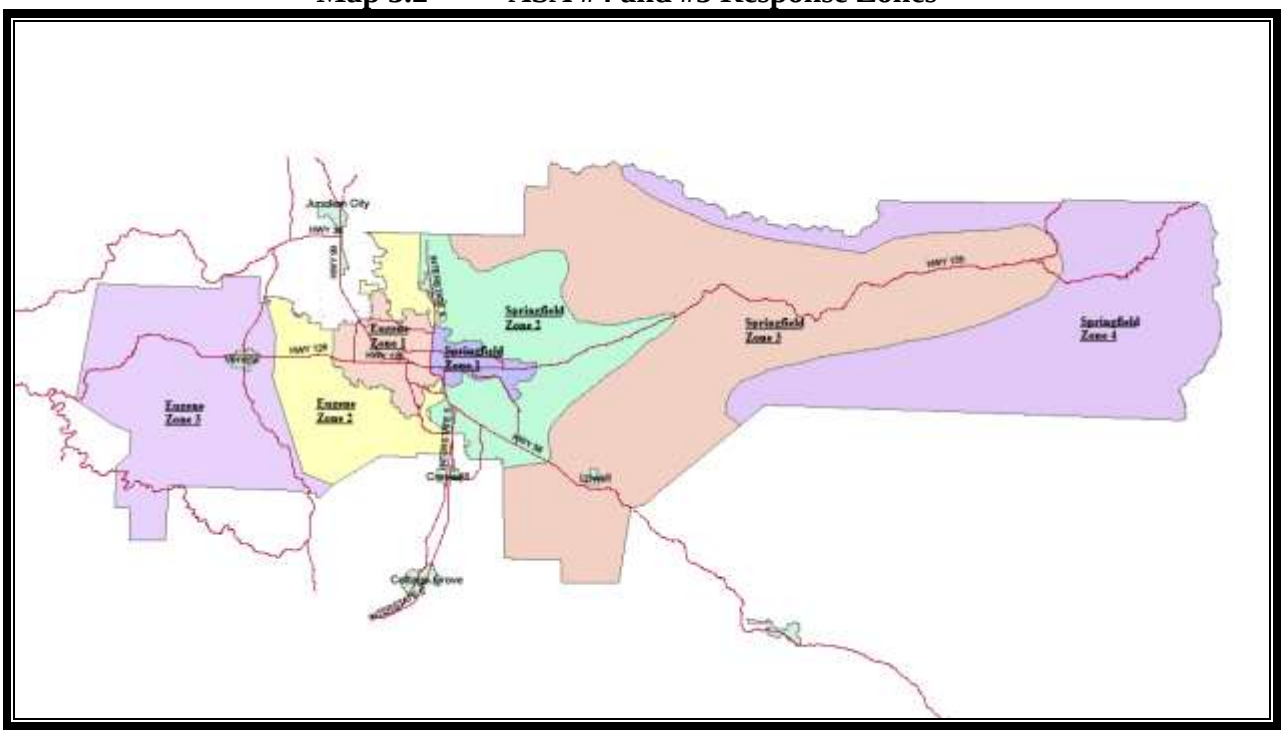
- Zone 1 includes all territory within Eugene and Springfield's Urban Growth Boundaries (UGBs), which are considered urban.

- Zone 2 includes territory outside the UGBs to the west approximately to Fern Ridge Reservoir, and to the east approximately to the Marcola area in the Mohawk Valley, to approximately Leaburg in the McKenzie Valley, and slightly past Pleasant Hill in the Highway 58 corridor, which are considered urbanized.

- Zone 3 includes all territory in the ASAs to the west and east of the zones indicated above, which are considered remote rural, but not qualifying as frontier.

- Zone 4 includes the eastern-most portion of ASA #5 (Springfield), including the area even farther up the McKenzie River Highway, and surrounding national forest lands both north and south of the highway, which is considered frontier.

Map 3.2 ASA #4 and #5 Response Zones



Demand for Ambulance Service

Since Eugene and Springfield's Ambulance Service Area is different from their fire protection service area, a separate analysis was conducted on this issue. Medical responses comprise a large majority of the total service demands placed on the Metro departments, and there are relatively fewer staffed resources to handle the total ambulance transport demand generated by a larger service area, and so it is particularly useful to examine demand patterns to ensure that resources are deployed as efficiently and effectively as possible.

In this analysis, ambulance calls are displayed using demand charts that outline calls by time of day and day of week compared to existing daily staffing levels. In Eugene, since not all ambulances are staffed on a traditional 24-hour fire department shift, it is important to compare actual staffing levels to calls received.

The peak demand is determined by calculating the 90th percentile of all medic unit dispatches, and allowing one hour as an average assumption for the amount of time typically necessary for an ambulance crew to handle the call and become available for another response. The 100th percentile figure is not used because our experience has demonstrated that many calls for service do not require transport, and will therefore, not require a full hour of time to complete. Points above the 90th percentile line represent times when the departments will most likely rely on the 24-hour, "swing" unit, staffed on a last-out basis by an existing fire engine crew as part of our designated "combination crew" configuration, or through an automatic aid response from a neighboring transport provider within the greater metropolitan area.

Demand for Ambulance Service by Day of Week and Time of Day in FY11

In the graphs below, the dark purple line (with diamonds) shows staffed ambulances on duty (deployment as of latter part of fiscal year 2011), and the red line (with squares) shows the average number of calls in a particular hour of the day. Medic unit deployment is designed (and sometimes adjusted) to correspond with demand. Demand is calculated using all calls to which Eugene and Springfield ambulances responded in fiscal year 2011.

Figure 3.5

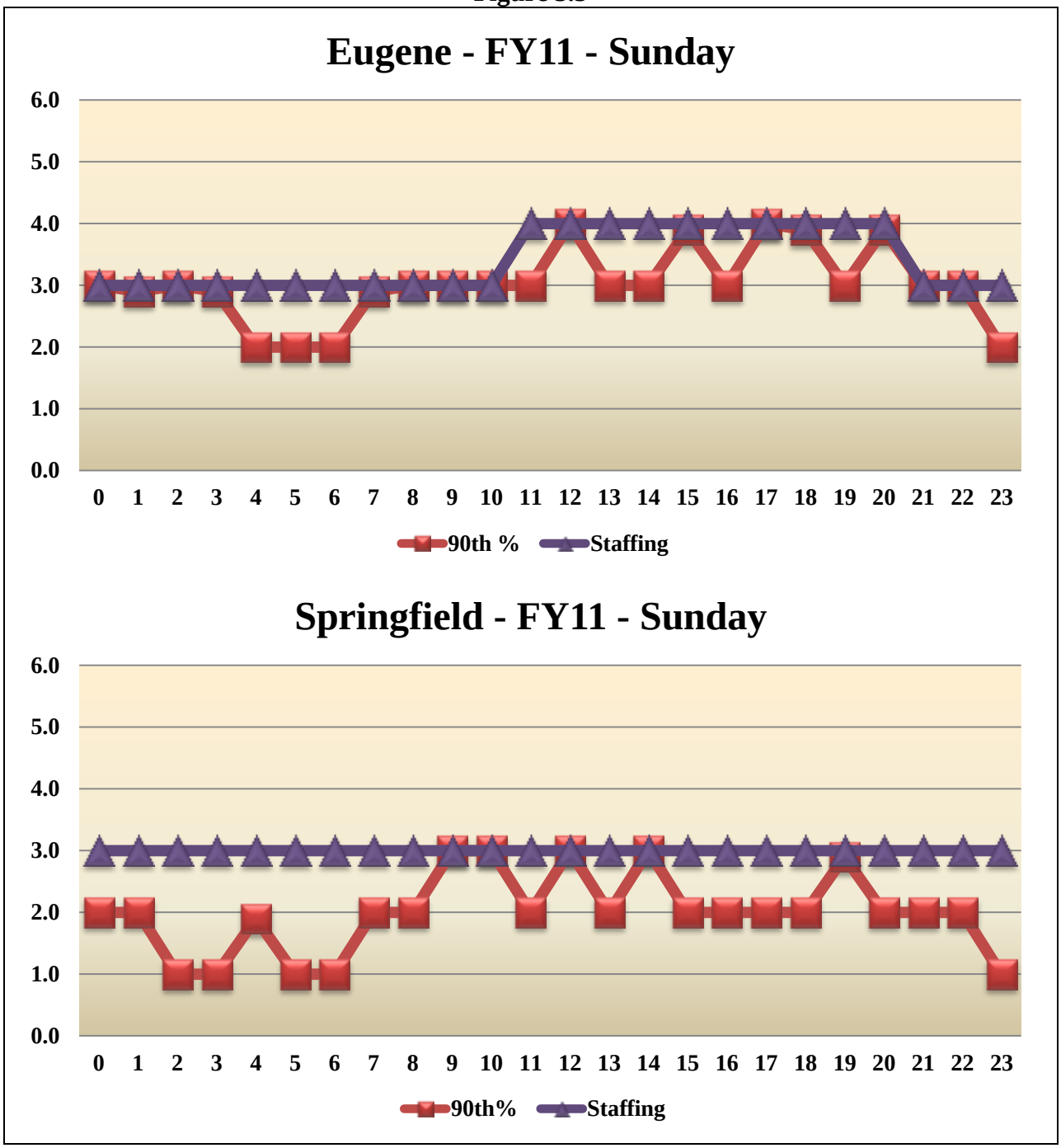


Figure 3.6

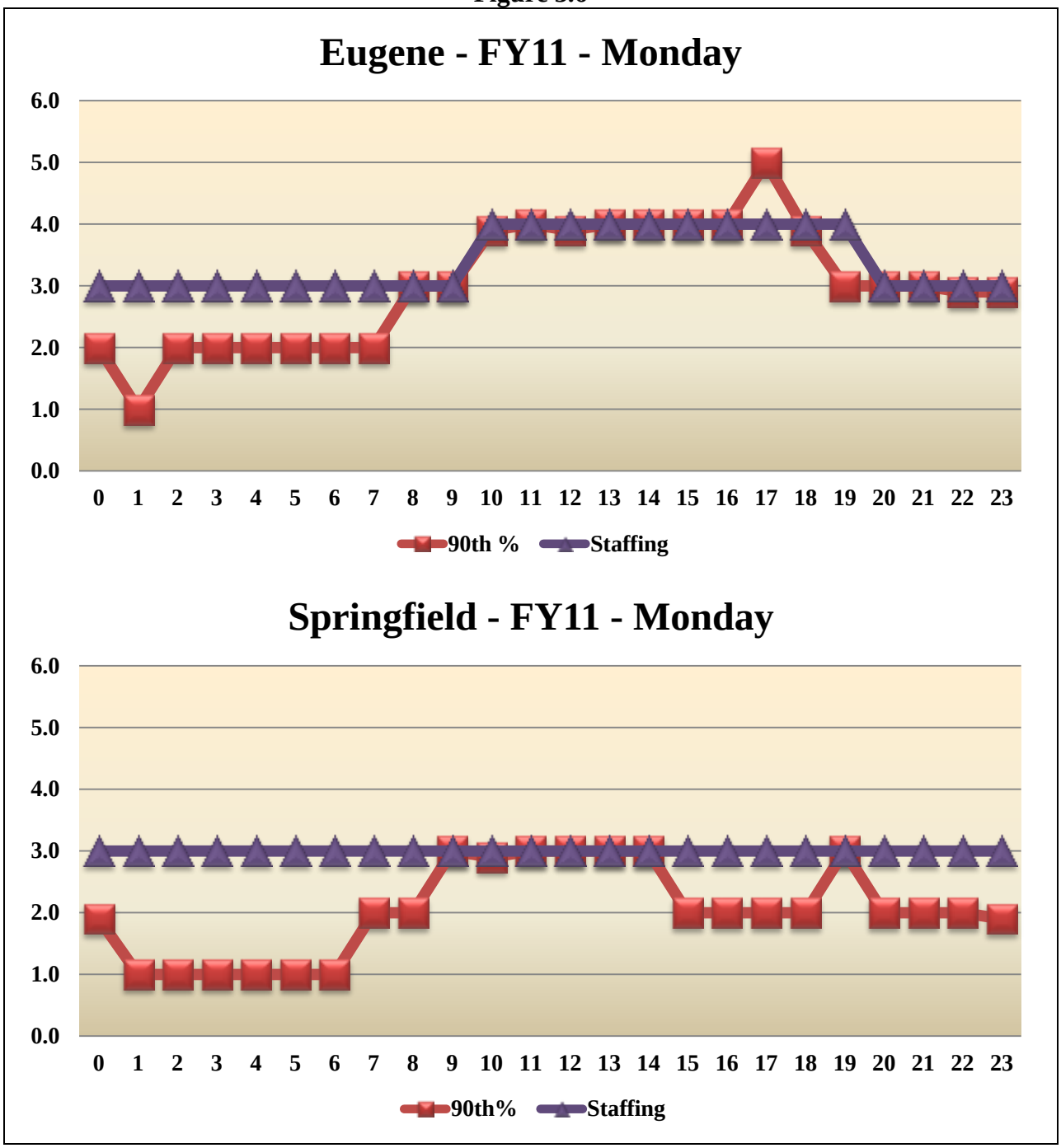

Eugene - FY11 - Monday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Monday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

Figure 3.7

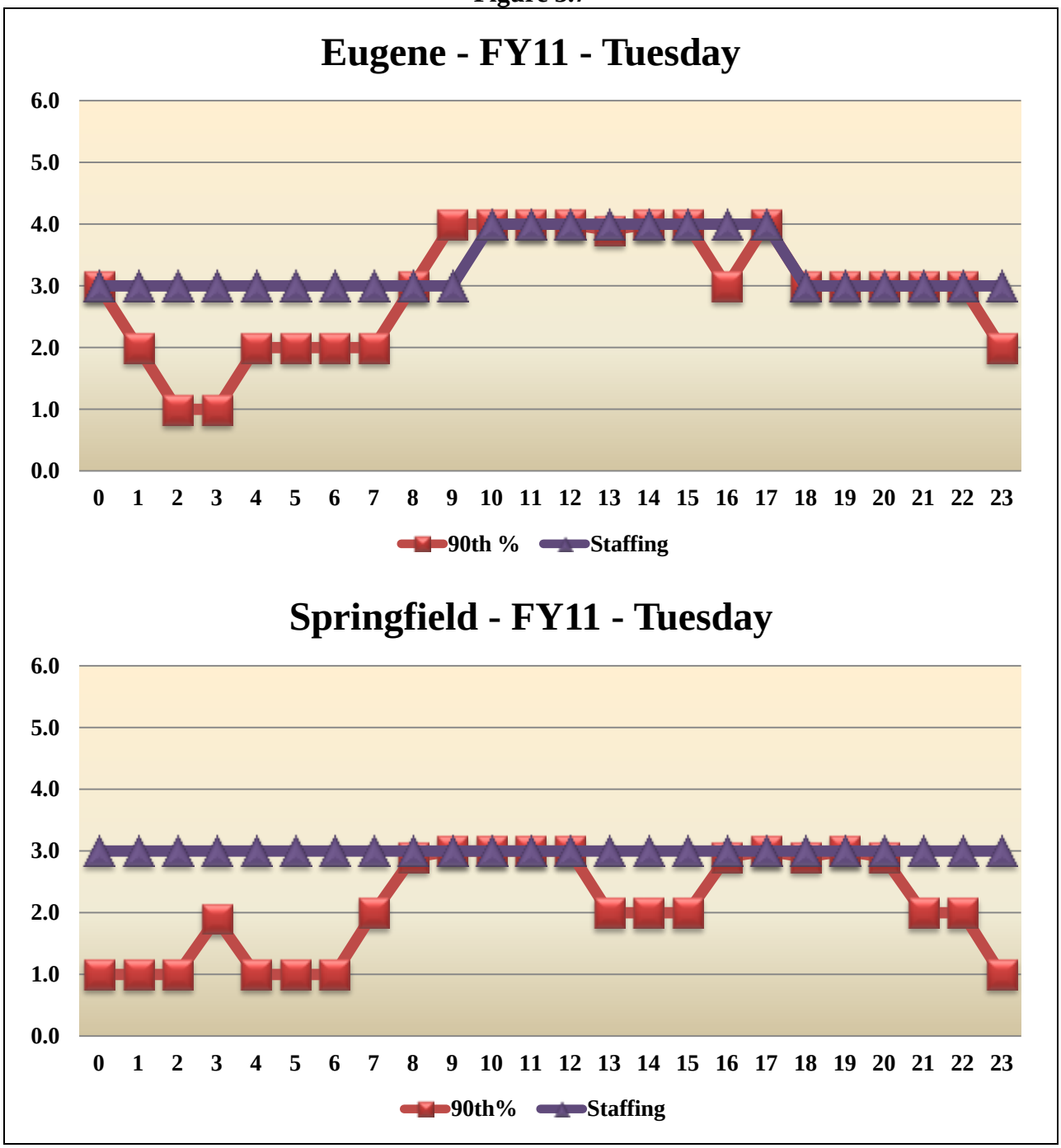

Eugene - FY11 - Tuesday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Tuesday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

Figure 3.8

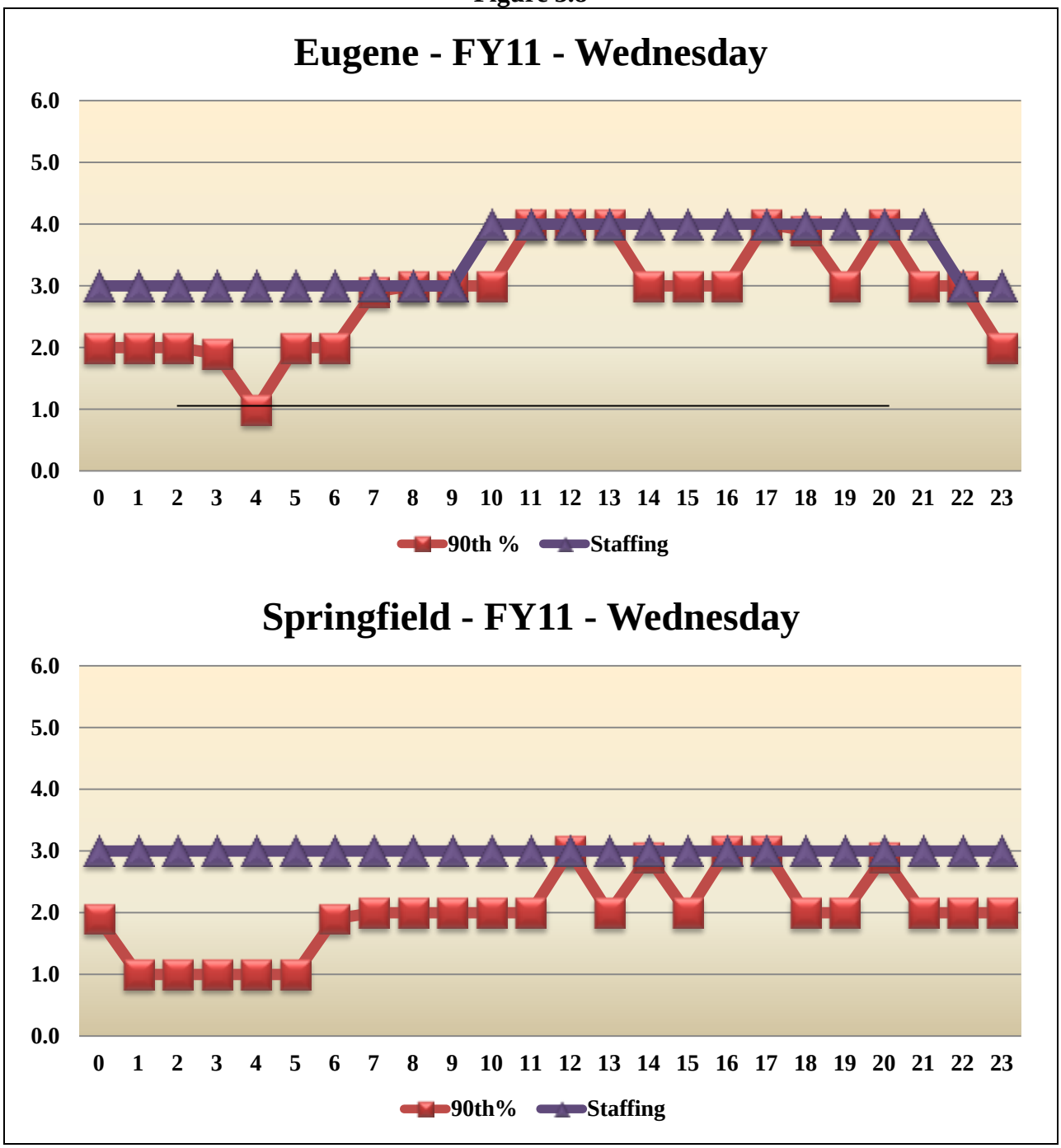

Eugene - FY11 - Wednesday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Wednesday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

Figure 3.9

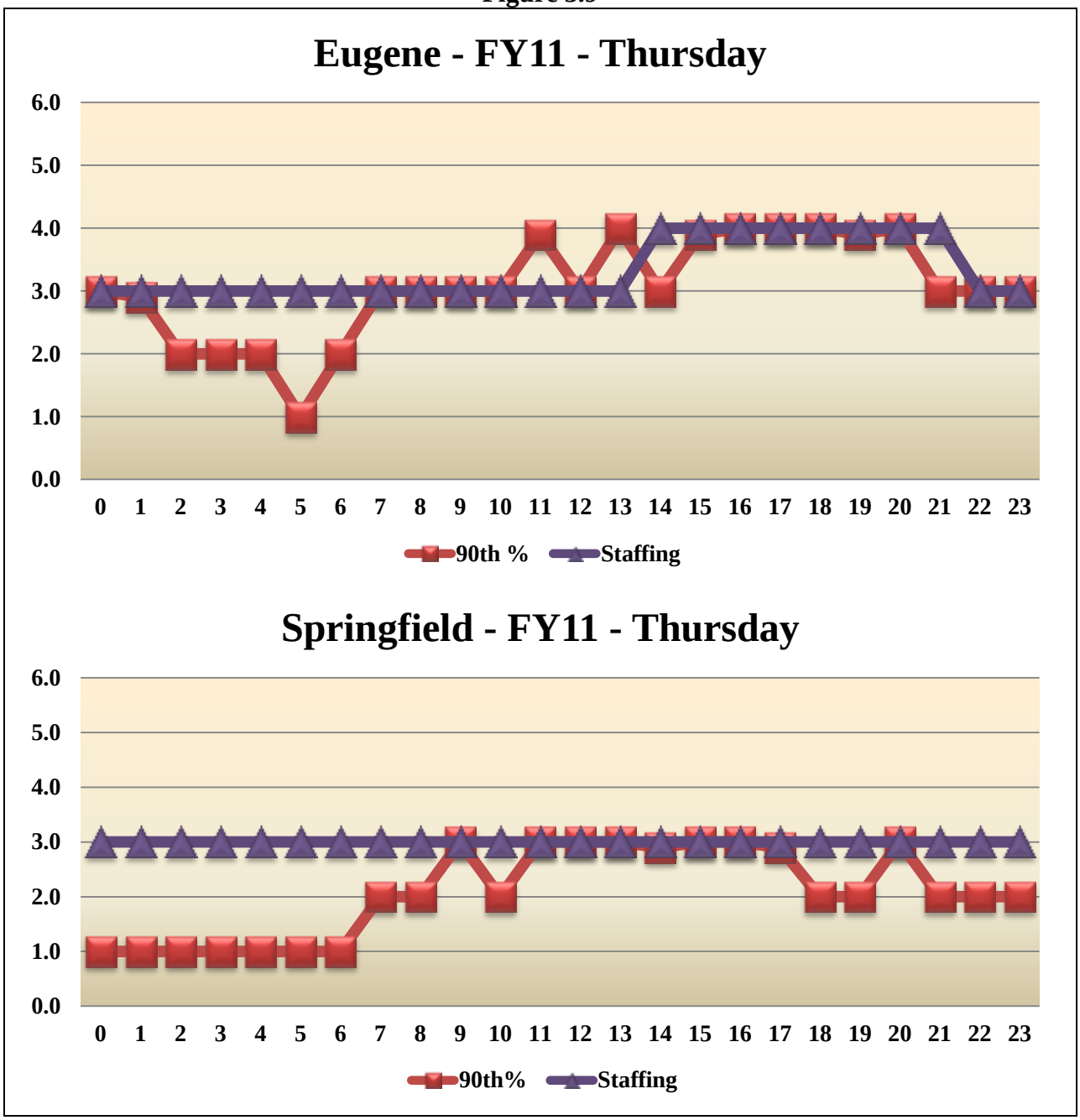

Eugene - FY11 - Thursday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Thursday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

Figure 3.10

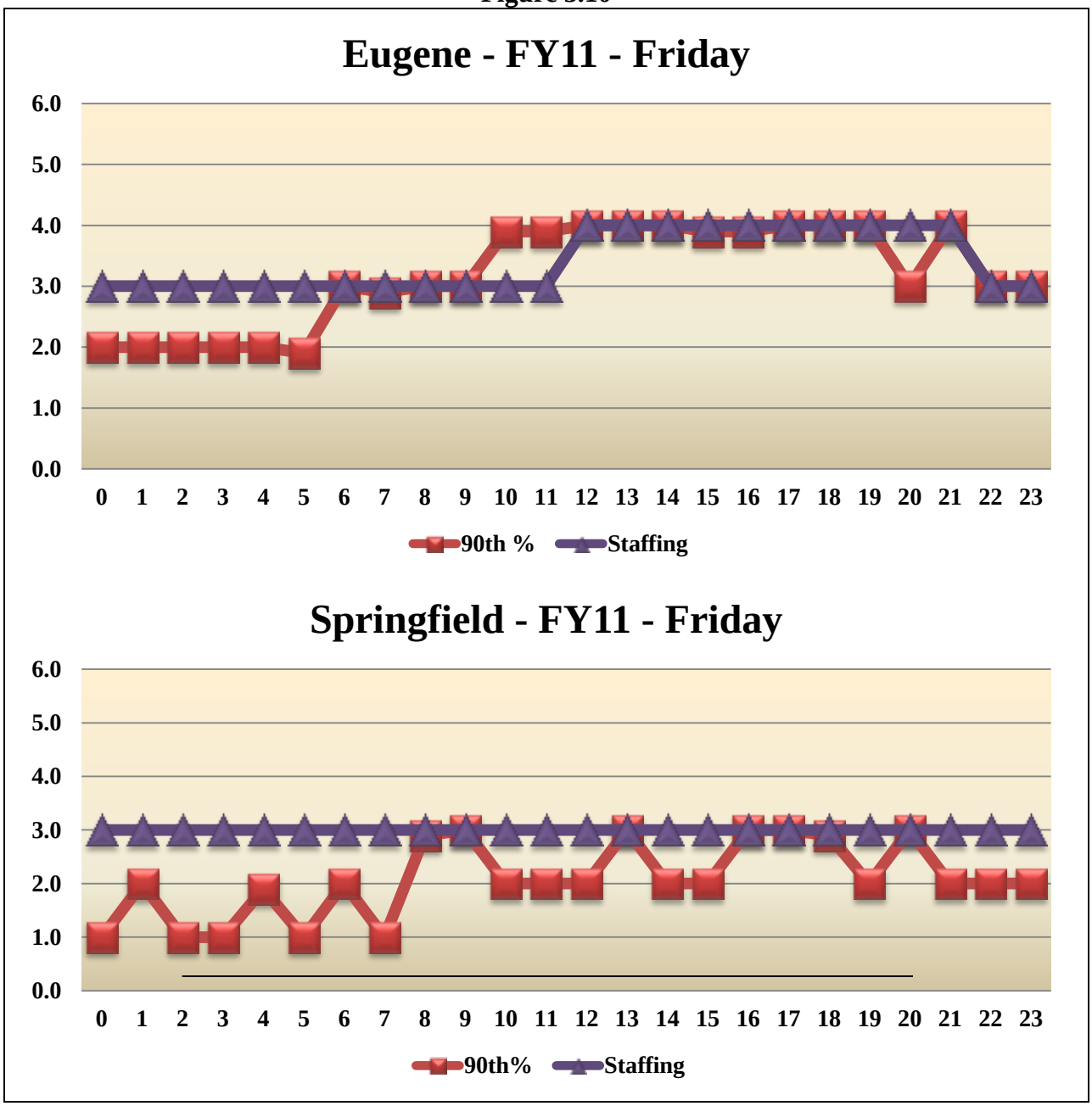
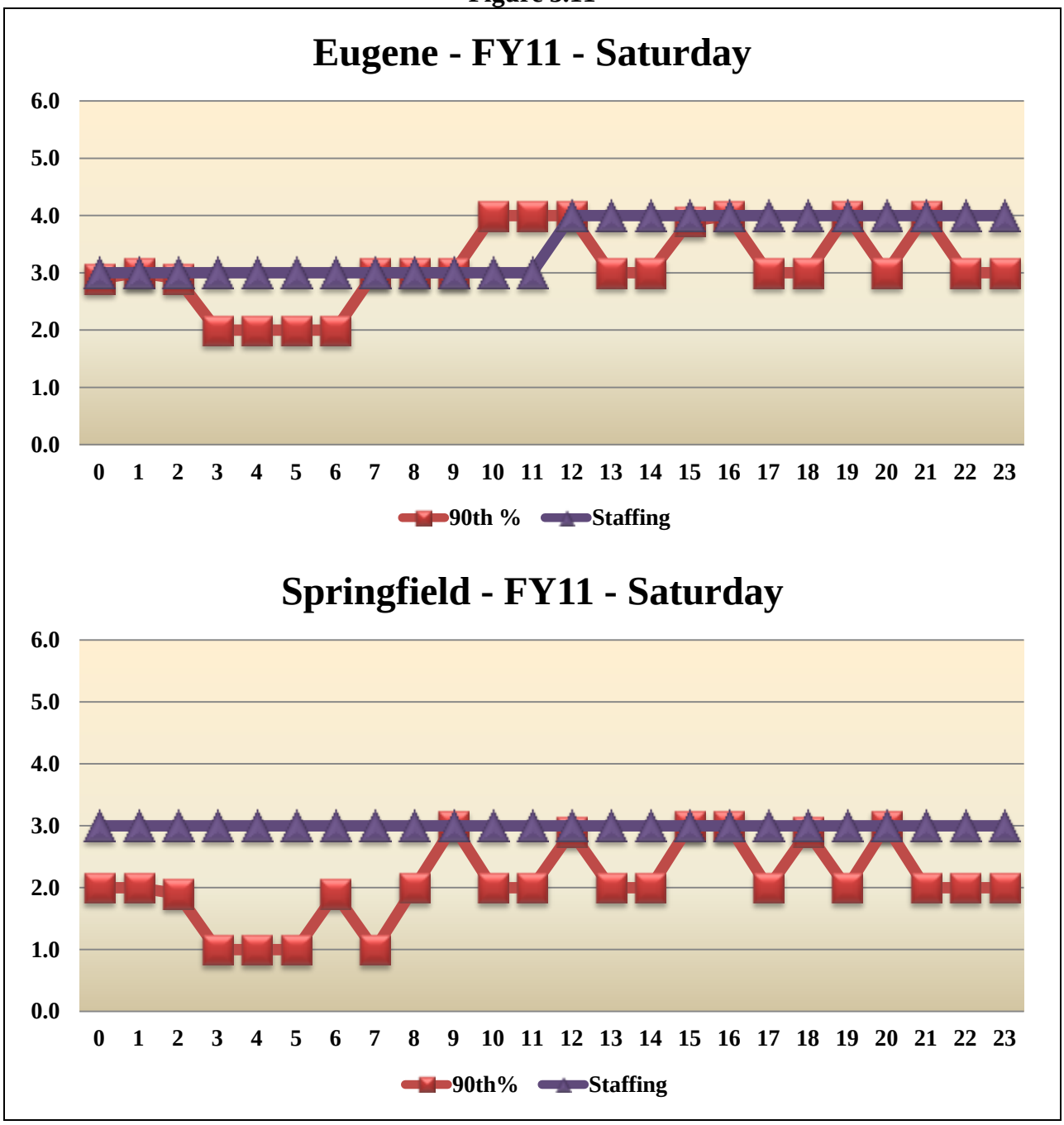

Eugene - FY11 - Friday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Friday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

Figure 3.11


Eugene - FY11 - Saturday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th %
Staffing
Springfield - FY11 - Saturday
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
90th%
Staffing

SECTION FOUR: On-Scene Operations and Critical Tasks

On-scene operations, critical tasking, and an effective emergency response force are the key elements of a standards of response coverage study, aiding in determining appropriate staffing levels, the number of companies needed, optimal deployment strategies, and the priority duties to be performed on the fire ground or emergency incident scene. Effective all-hazards fire departments must be able to determine what tasks need to be completed in order to have a positive influence on the outcome of the situation, and the number of personnel and apparatus required to complete those tasks in an effective manner.

On-Scene Operations

The variables of fire growth dynamics, along with property and life risks, combine to determine the fire ground tasks that must be accomplished, and to a certain extent the order in which they must be accomplished, to preserve life and mitigate loss. These tasks are interrelated, but can be separated into two basic types – fire control and life safety.

Fire control tasks are those related to applying a fire suppression product, most generally water, on the fire, and removing the products of combustion from an enclosed environment. Life safety tasks are those related to finding trapped, disoriented or incapacitated victims and safely removing them from the structure or shielding them from the hazard.

Fire control tasks are generally accomplished by using one of two methods – hand-held hose lines and master streams.

- Hand-held hose lines are mobile and produce water flows of up to 250 gallons-per-minute. These are generally used during interior, offensive firefighting activities.

- Master streams are generally used from stationary positions, and produce a flow of up to 1,000 gallons-per-minute. They are used primarily during exterior, defensive firefighting activities.

The decision to use either hand lines or master streams depends upon the stage of the fire, the identified threat to life safety and adjoining property, and the specific strategy and tactics employed by the fire incident commander when sufficient firefighting resources have reached the scene. If the fire is in a pre-flashover stage (a phenomenon causing the spontaneous ignition of all combustibles in a room), firefighters can make an offensive fire attack into a building by using hand lines to attack the fire and shield trapped victims until they can be safely removed from the structure.

If a fire is in its post-flashover stage and has extended beyond the capacity or mobility of hand-held hoses, or if the structural damage and the threat of building collapse present a significant risk to the safety of firefighters on scene, the structure may be declared a loss. In this situation, master streams are positioned to extinguish the fire and keep it from advancing to surrounding exposures. First-arriving firefighters may use a transitional “defensive to offensive” strategy (discussed below) to limit or remove an environment suspected of presenting an immediate

danger to life or health (IDLH) of trapped victims while awaiting the arrival of additional resources to mount an offensive attack.

Life safety tasks assigned are based upon the number of occupants, their location, their status (e.g., awake, unconscious), and their ability to take effective self-preserving action. For example, ambulatory adults need less assistance than non-ambulatory adults or children. The very young and old generally require more assistance, which requires greater resource utilization.

The key to any fire department's success at a fire includes a rapid response and efficient fire scene deployment, as well as adequate staffing and coordinated teamwork. These key elements are relevant regardless of whether the fire ground tasks are all fire-flow-related or a combination of fire flow and life safety.

Because of its greater potential for saving lives and limiting property damage, the Metro departments utilize aggressive offensive attacks whenever possible. The first objective is to put a hose line between any fire victims and the fire, and to rescue those victims by removing them from proximity to the hazard. The second objective is to contain the fire to the building of origin, floor of origin, or room of origin in that priority order, and to mitigate the IDLH atmosphere.

Before on-scene procedures can be established, the initial Incident Commander must select an initial strategy – *Offensive*, *Defensive*, or *Transitional* — appropriate to the conditions.

- **Offensive Strategy** – This strategy involves an aggressive interior fire attack operation. The top priority with this strategy is to rescue trapped victims. Because attempts to limit the potential for fire to spread beyond the room of origin and to limit fire-related deaths and injuries, the aggressive offensive attack is utilized wherever possible, taking into account the safety of personnel, the availability of on-scene resources, and the size and scope of the emergency situation. The objective of an offensive attack is to stop the fire and confine it to the area of origin as quickly as possible.

  The offensive attack may also apply to wildland fire where firefighting crews directly attack the head, or front of an advancing fire. Although this can be an effective tactic, this mode of attack also poses an increased element of danger that warrants a higher degree of vigilance by the incident commander and all crew members.

- **Transitional Strategy** – A transitional strategy consists of an initial exterior attack positioned to quickly transition into a coordinated interior attack specifically to accommodate the Occupational Safety and Health Administration's (OSHA) Two-In/Two-Out requirements for interior fire attack. The objective is to hold the fire in check from the exterior and then move to the interior to effect total extinguishment. The transitional attack is intended to slow the spread of fire until staffing levels and water supplies are adequate to offensively engage the fire.

  The transitional attack is an effective tactic to employ when the OSHA Two-In/Two-Out rule cannot be met initially. Two-In/Two-Out refers to the OSHA requirement that two firefighters be on scene, equipped and in position for immediate entry, before at least two

additional firefighters are allowed to enter into an IDLH environment. The objective of a transitional attack is to prevent the spread of fire until fire crews can make an interior fire attack and search the IDLH area for occupants.

- **Defensive Strategy** – This strategy generally consists of an exterior attack designed to confine a fire to the structure of origin. No attempts are made to rescue civilian fire victims from the interior of a structure because, by virtue of the fire's extent, victims not already evacuated are presumed to be beyond rescue. A "fully involved" structure is one that is at high risk for collapse, and even modern firefighting protective equipment is not sufficient to allow rescuers to safely enter such a super-heated environment.

  In the case of a large structure, a defensive attack can also be an interior attack that saves a substantial portion of the structure from the fire by taking advantage of the building's design. The objective of a defensive attack is to protect an uninvolved area or building, or other exposures.

  A defensive attack may also apply to wildland fires when crews are deployed well ahead of a fire and attempt to change the fire's course, remove unburned fuels from the fire's path, or decide which neighborhoods can be saved, as well as to maintain safe escape routes for the use of fleeing residents.

Apparatus Types

Fire Engines – The Metro departments currently staff eleven NFPA-designated 'triple combination' pumping apparatus. These are apparatus equipped with a fire pump, hose complement, and water tank. Fire engines are also designated as wildland Type I engines and are given a Class-A designation by the Insurance Services Office (ISO).

The units are always staffed with at least three firefighters: one captain who functions as the lead worker in charge of the company; one engineer (apparatus operator), and at least one firefighter. This three-person crew configuration allows each fire company to serve the dual role of operating as both a fire suppression and first response advanced life support (ALS) unit.

The role of the engine company during fire suppression efforts is to provide water supplies suitable for firefighting purposes through a variety of fire hoses and associated appliances onto the fire, in order to lower the temperature of the fuel below its ignition point.

Quints/Ladders – The Metro departments currently staff three "quint"-type suppression apparatus, which serve the same function as fire engines, but are also equipped with a 75-foot apparatus-mounted ladder, and carry more ground ladders than a standard engine.

These units are always staffed with at least three firefighters: one captain who functions as the lead worker in charge of the company; one engineer (apparatus operator), and at least one firefighter. This three-person crew configuration allows each fire company to serve the dual role of operating as both a fire suppression and first-response advanced life support (ALS) unit.

Tower/Truck - The Metro departments currently staff two types of ladder truck companies. The first is a 100' straight ladder (no bucket), carried on a tractor-trailer, tillered aerial apparatus chassis. The second type, of which there are 2 in the Metro area, is a 100' elevating platform carried on a straight chassis. The Metro departments also utilize a reserve ladder truck with a 100' elevating platform carried on a straight chassis.

The role of the truck company during fire suppression efforts is to provide forcible entry; vertical and positive pressure ventilation, which aids in fire suppression efforts conducted by the engine companies; search and rescue; salvage and overhaul; elevated work above ground level on ladders; and/or elevated master streams for defensive firefighting operations.

Brush Engines – The Metro departments deploy four Type III brush engines: three in Eugene's hillside neighborhoods – University, South Hills and Bailey Hill – and one located at Station 16 in Springfield for rapid deployment to the rural interface areas. These brush engines are staffed by the engine company crews at those locations based upon call type. These units have a limited yet very important application, and receive less use than front-line structural engines. However, the functionality of these engines has increased with the two most recent purchases, one in Eugene and one in Springfield, and these rigs serve as reserve engines when needed and during inclement weather.

The role of the Brush Engine is to access and fight fire in the wildland and urban/rural wildfire interface zones. Brush engines are smaller units than Type I engine companies, equipped with all-wheel drive, a higher ground clearance, and carry hose loads more suited to wildland firefighting applications.

Water Tenders – The Metro departments deploy three 3,000-gallon water tank trucks which are utilized in non-hydranted response areas. These resources may also be deployed on structure fires or to natural cover fires. The departments' water tenders are deployed at Fire Station 2 (Whiteaker), Fire Station 8 (Danebo) and Fire Station 14 (48th Street), and are staffed by the engine company crews at those locations based on call type. Like the brush engines, water tenders have a limited yet very important application, and receive less use than front-line engines.

The Metro departments' water tenders are equipped with telescoping fixed-mounted master stream nozzles. These nozzles are capable of flowing in excess of 750 gallons per minute. Deployment of this heavy master stream can be of particular value during wildland fires that require a rapid and mobile application of large volumes of water. The water tender apparatus are also equipped with 30 gallons of aqueous film forming foam (AFFF) concentrate. This foam concentrate, when used in conjunction with the foam educting master stream nozzle, can generate 3,000 gallons of foam solution using only the water and foam concentrate contained on the apparatus.

The water tenders may be used as a supplemental resource at the Eugene Airport. In addition to the supplemental 3,000 gallons of mobile water available on each water tender, the foam component is of particular benefit during aircraft emergencies. On occasion, when larger-than-usual commercial aircraft are scheduled to land at the Eugene Airport, the Federal Aviation

Administration (FAA) may upgrade the Aircraft Rescue and Fire Fighting (ARFF) index. The Metro departments are equipped to meet this upgraded status by deploying one or both water tenders to meet the additional water and foam flow requirement. Water tenders may also be used during scheduled maintenance of ARFF apparatus.

Aircraft Rescue & Fire Fighting Units – The Metro departments deploy two ARFF apparatus with one of the two staffed round-the-clock. ARFF companies are uniquely configured units, staffed by specially trained firefighters, and designed for the application of aircraft rescue and firefighting services. These vehicles have a limited application and use, but deliver fire, rescue, and emergency medical first response at the Eugene Airport. Crews stationed near the airport are cross trained to provide backup to the ARFF crews during safety standbys and calls for service.

The role of the ARFF company is to remain at the Airport and be available for aircraft rescue, and firefighting responses, as per Federal Aviation Regulations, Part 139.

Medic Units (Ambulances) – The Metro departments currently deploy six 24-hour dual-role (firefighter/paramedic) Type I ambulances staffed with at least one Paramedic and one EMT-Intermediate, plus a seventh unit that is similarly staffed during hours of peak demand (24 hours when personnel are available), plus one Type I dual-role ambulance that can be deployed on a last-out basis using a fire suppression company that includes at least one Paramedic. All of Metro departments' medic units carry a full complement of advanced life support (ALS) equipment, and are licensed and designated by the State of Oregon as ALS ambulances.

Eugene and Springfield currently contract with Rural Metro Ambulance for certain categories of non-emergency medical transports. Rural Metro Ambulance deploys two medic units, one on a 24-hour basis and the other on a peak-demand basis.

The primary role of the medic unit in the Metro system is the treatment and transport of the sick and injured within county-designated ambulance service areas. Personnel assigned to staff dual-role medic units are also qualified and able to function as firefighters, which helps augment the Metro departments' overall daily firefighting force.

Critical Tasks (Firefighting)

Critical tasks are those that must be conducted in a timely manner by firefighters at structure fires in order to control the fire prior to flashover, or to extinguish the fire in a timely manner. Fire departments are responsible for assuring that responding companies are capable of performing all of the described tasks in a prompt and proficient manner.

Critical tasks are described below. The allocations assume that emergency crews are committed to those assigned tasks (worst-case scenario), and would not be available for re-assignment until after the balance of the alarm, or response package, arrives on scene.

Initial Deployment

The initial fire ground actions begin with the arrival of the first company and continue, sequentially or in parallel, as tasks are completed and additional resources arrive. Initial deployment includes the tasks shown in the following table.

Table 4.1 Personnel Required for Initial Deployment Tasks

TASK	RESIDENTIAL	COMMERCIAL	HIGHRISE	NON-HYD.
Size-Up/Command	1	1	1	1
Pump Ops/Water Supply	1	2	2 – 3	2 – 3
Offensive Fire Attack	2 – 4	2 – 4	6	4
Accountability	1	1 – 2	2 – 3	1
SUB-TOTAL: Initial Attack Personnel	5 – 7	6 – 9	11 -13	8 – 9

Initial Support

Initial support functions occur slightly after the initial attack functions. Typically, the first arriving ladder truck company and additional arriving engine companies or dual-role medic units perform these tasks. Initial support functions are identified in the following table.

Table 4.2 Personnel Required for Initial Support Tasks

TASK	RESIDENTIAL	COMMERCIAL	HIGHRISE	NON-HYD.
Truck Ops: Forcible Entry, Search, Ventilation	3	6	9	3
Rapid Intervention Teams	3	3 – 6	3 – 6	3
Salvage & Overhaul	3	3 – 6	3 – 6	3
Back-up Hose Lines	2	5 – 7	5 – 7	2
Incident Safety Officer	1	1	1 – 2	1
*Air/Light	1 – 2	1 – 2	2 – 3	1 – 2
**Rehab	1 – 2	2	2	2
SUB-TOTAL: Initial Support	14 – 16	21 – 30	25 – 35	15 – 16
TOTAL PERSONNEL	19 – 23	27 – 39	36 – 48	23 – 25
TOTAL FIREFIGHTERS	17 – 19	24 – 35	32 – 43	20 – 21

* Function is performed by Logistics staff members.
**Function may be performed by Logistics staff members or dual-role medic unit personnel.

Secondary Support

It should be noted that secondary support functions are not all conducted concurrently, and in some cases more than one task can be accomplished by the same personnel, reducing the overall number of required personnel. Examples of this include the same truck company of three personnel performing forcible entry, then ventilation, salvage, and overhaul. On the other hand, there may be instances where a second crew needs to relieve the first fire attack crew prior to the task being completed.

Secondary support functions include:

- Salvage (functions which prevent further property damage from occurring)
- Overhaul (functions which ensure that the fire is completely extinguished)
- Firefighter rehabilitation
- Breathing air supply, equipment maintenance, and on-scene lighting support activities

Secondary support functions may be performed by:

- Fire suppression companies reassigned after initial deployment task completion
- Dual-role medic unit personnel
- Additional fire suppression companies called to the scene specifically for this purpose
- Logistics personnel who have been called to the scene to provide air re-supply, lighting and rehabilitation

As many as 40 firefighters, augmented by civilian staff members, may be needed to accomplish the critical tasks necessary to control structure fires, according to type, in a safe, efficient, and effective manner, using the Metro departments' current staffing configuration. The exact number needed will vary from incident to incident.

The fire scene is unpredictable in many ways. While it is possible to anticipate what critical tasks must be accomplished in order to extinguish the fire, it is not always possible to predict how many firefighters it will take to accomplish those tasks. The number of personnel and the amount of equipment necessary to accomplish the critical tasks listed will vary due to the following factors:

- Response time
- Building construction
- Number of floors the fire is located above ground level
- Number of occupants
- Exposures
- Physical and emotional condition of occupants
- Extent of fire upon arrival (flashover)
- Built-in fire protection
- Area of fire involvement
- Firefighter or civilian injuries
- Apparatus or equipment failure

The Metro departments have used their experience, knowledge, and historical information to determine what constitutes an effective response force. These staffing projections are accurate for the majority of the working fires within the Metro response area. The need for more personnel may arise on any fire scene at any time. Fire conditions dictate the response needed for any given fire, even if that response exceeds the requirements listed in this document.

The Metro departments rely on the experience and professional judgment of their company and chief officers to request additional resources early in an incident whenever their expertise suggests that those resources might be required. These resources can be readily obtained through on-duty staffing, automatic and mutual aid, or the callback of off-duty line personnel.

Critical Tasks (Emergency Medical Services)

The Metro departments provide both EMS first response and ambulance transport services to a large portion of central Lane County, and respond to more than 25,000 emergency medical calls for service per year. Because the majority of the call load involves emergency medical service delivery, every Eugene and Springfield engine company is equipped as an advanced life support (ALS) first response unit, and staffed with at least one firefighter/paramedic. In addition, all medic units are ALS transport equipped and staffed with a minimum of one paramedic and one intermediate emergency medical technician (EMT-I) driver.

In order to preserve the more limited ambulance capacity within the local EMS system, the Metro departments' engine and truck companies are dispatched on a first-out basis to perform non-emergency patient evaluations. These calls are most frequently defined as nonspecific medical evaluations, and are indicated when the caller reports no priority symptoms in response to questioning by a trained dispatcher.

Upon arrival, the first response engine company rapidly assesses the patient, determines the level of intervention needed, if any, and connects the patient with the appropriate level of assistance. Most frequently these calls result in a patient evaluation conducted by the engine company.

Options for patient intervention include providing medical evaluation and advice to a patient who does not require transport to a medical facility. In some cases, after a field evaluation has determined that no medical intervention is required, the patient is left in the care of a relative or other appropriate responsible party who will either monitor the situation or transport the patient to a medical facility by private vehicle.

In certain situations, responding Eugene crews can access the local CAHOOTS (Crisis Assistance - Helping Out On The Streets) program. This non-emergency service is provided by the City of Eugene in partnership with the White Bird Clinic. It consists of two non-emergency transport units (without stretchers) staffed by civilian emergency medical technicians (EMTs), designed to handle mental crisis intervention, intoxicated subjects, and some eligible social service needs. First response engine crews also have the option of requesting an ALS transport unit if needed when no other options are available, or if CAHOOTS is already committed to

another call. Because of the limited CAHOOTS system capacity, the latter situation occurs frequently.

This type of tiered response has been implemented because engine and truck companies in our system are staffed with dual-role firefighter/paramedics, and these companies are more numerous and have greater workload capacity than ALS medic units in the system. This practice lowers the volume of medic unit responses and resolves a substantial number of situations that can most often be handled in another way. To further address workload and capacity issues, Eugene and Springfield have now contracted with a private medical transport provider to handle requested non-emergent BLS transports.

EMS calls for service can require treatment for more than one patient. These calls include vehicle accidents, chemical exposures, construction or industrial accidents, fires, and any other event that occurs with several people in close proximity. Patient conditions can range from minor cuts and bruises to life-threatening illnesses or injuries.

As well as providing additional EMS system capacity, first-response fire companies also serve to augment the two-person ambulance crews at all emergency medical incidents. This is done to expedite life-saving treatment when required, and to ensure that there are enough trained responders on scene to handle the incident safely and effectively.

Below is a table that illustrates the many tasks which must be accomplished simultaneously during three life-threatening medical scenarios that occur frequently in our area. While some of these tasks can be done by the same person in rapid sequence, it illustrates the fact that it can take between five and eight people to treat and prepare for transport even one critical patient. To most calls involving the examples below, the Metro departments send five personnel, three on the engine and two on the medic unit. However, more personnel may be requested as needed.

Table 4.3 Tasks Required for Selected Types of Medical Calls

Critical Tasks	Cardiac Arrest	Stroke/Overdose	Multi-System Trauma
12-Lead EKG Monitor	X	X	X
Cardiac Defibrillation	X	n/a	n/a
Airway mgt./Intubation	X	X	X
CPR	X	n/a	n/a
Blood Test/Collection	X	X	X
IV / Pharmacology	X	X	X
Splint./Bandage/Immob.	n/a	n/a	X
Pt. Lifting/Packaging	X	X	X
Medical Info Collection	X	X	X

The Central Lane 9-1-1 Dispatch Center is responsible for answering and screening calls for service from the public, establishing the correct initial response, and initiating the response notification referred to as “tone-out.” The first arriving fire officer on scene may amend the response package once conditions have been assessed. Metro Standard Operating Procedures are used to request adequate personnel.

Critical Tasks (Special Operations)

The Metro departments currently maintain three operational teams, as well as the Aircraft Rescue and Fire Fighting (ARFF) program which provides protection at the Eugene Airport:

- *HAZ MAT TEAM* – The Oregon State Region 2 Hazardous Materials Team is comprised of 22 team members and operates out of Fire Station 9 (Valley River). Region 2 covers all of Lane County and a small section of Deschutes County, as well as backup support to the rest of the state.

- *URBAN SEARCH & RESCUE TEAM* – This team has 36 members and operates out of Fire Station 2 (Whiteaker) and Fire Station 5 (Gateway). The Metro Urban Search & Rescue Team operates within a web of partner agencies and mutual aid agreements with other State regional Urban Search & Rescue (US&R) Teams.

- *WATER RESCUE TEAM* – Water Rescue is comprised of 50 team members and operates out of Fire Station 1 (Downtown) and Fire Station 5 Gateway. The Metro departments' Water Rescue Team operates cooperatively with the Lane County Sheriff's Office (LCSO) Search and Rescue Team. LCSO has statutory authority for managing all water rescue-related operations, so command is generally turned over to them upon their arrival.

- *ARFF SERVICES* – 28 Eugene Fire & EMS personnel are specially trained and certified to provide aircraft rescue and firefighting services at the Eugene Airport. These personnel operate out of Fire Station 12 (Airport).

The Metro departments utilize a two-tiered approach to incidents requiring special operations capabilities.

Each fire company has personnel trained to the "Operations" or similar level in hazardous materials response, technical rescue, and water rescue, along with limited equipment for these functions. Of additional benefit to the community is the fact that many technical and specialist personnel are also available as part of regular fire companies on a daily basis. These companies respond when dispatched as they would to other emergencies. Upon arrival, they assess whether they can mitigate the emergency with their own resources or if the special tools and expertise of the specialty teams are required.

Specialty teams may be dispatched on the initial alarm, or may be requested by first arriving companies based on their size-up of the incident. In addition to the three specialty teams and ARFF unit, the Metro departments are routinely called upon to provide special standby coverage for events such as the 4th of July Freedom Festival, Butte to Butte race, Lane County Fair, University of Oregon sporting events, and known or anticipated civil disturbance protests and activities. Many of these events involve special services and contingency planning from local agencies. In 2008, Eugene hosted the U.S. Olympic Trials – Track and Field, an event that brought an estimated 15,000 guests into the community for a 10-day period. The Metro departments were actively involved in planning and providing security arrangements for the

Trials. Subsequently, planning will soon begin to host the 2012 U.S. Olympic Trials – Track and Field, for which the Metro departments will once again be actively involved in planning and providing security arrangements.

Hazardous Materials

The HazMat Team is assigned to Fire Station 9 (Valley River). The team responds out of this location primarily because there is available space, it is located near the center of Lane County, and it has good response avenues to three freeways which are primary transportation corridors for chemical delivery. The team operates as one of 14 State of Oregon regional HazMat Emergency Response Teams and, as such, is approximately 25% revenue-backed by the State. Hazardous materials response and mitigation services are provided on a special call basis, to control and mitigate accidental chemical releases. As a regional team, these services are provided to all of Lane County on a primary response basis, and to the rest of the State on a mutual aid response basis to support one of the other regional teams. Additionally, a number of Metro department personnel – including members of the HazMat Team – serve on the Lane County Local Emergency Planning Committee (LEPC), for purposes of assisting the community to plan, prepare for, and respond to hazardous chemical releases.

The team consists of 22 personnel deployed on the three shifts. Personnel are state-certified to the Specialist level, which requires four weeks of training and continuous critical skill validation to maintain. There are no proposed budget cuts for this team in the foreseeable future.

When an incident presents a hazardous materials spill, release, or exposure requiring skills and equipment beyond the scope of those trained to the HazMat Operations level, the Metro Departments' Hazardous Materials Team is requested.

While en route, the team communicates by radio and cellular telephone with the on-scene Incident Commander and various state agencies to begin designing specific operational priorities specific to the incident. Upon arrival, the HazMat Team is designated as the HazMat Branch or Group under the Incident Command System (ICS) organizational structure. The Team Leader or Supervisor confers with the Incident Commander to further assess:

- Relevant safety issues and additional resource needs
- Hot / Warm / Cold Zone designation
- Evacuation / isolation requirements
- Product identification / determination
- Life safety and environmental damage and exposure concerns
- Release / spill mechanism and current status
- Risk / benefit analysis
- Determination of strategy and tactics
- Required notifications

Following this initial briefing with the Incident Commander, the HazMat Team initiates interventions on:

- Reconnaissance
- Developing mitigation plans
- Defensive and/or offensive operations (confine versus contain)
- Debriefing, documentation, demobilization

General Hazardous Materials Team assignments are as follows:

- Team Leader
- Resource Officer
- Entry Team (2)
- Back-Up Team (2)
- Safety / Medical Team

A minimum of one company is necessary to handle personnel and victim decontamination responsibilities. Additional companies may be used in support roles as needed. These may include:

- Incident Command and Command Staff
- Decontamination support
- Fire suppression standby
- Ventilation
- Scene / perimeter control
- Medical support

Urban Search & Rescue (US&R)

The Urban Search & Rescue Team is assigned to Station 2 (Whiteaker) and Station 5 (Gateway). The team responds out of this location primarily because Station 2 is one of two stations with a staffed ladder truck company, and the technical rescue skill set is very useful in regular truck company operations. Station 5 has a Heavy Rescue apparatus that is equipped with specialized tools and equipment for US&R responses. Technical rescue services are provided within the city limits, and in some cases, specifically called for by one of the Metro departments' medic units operating outside the city and in need of the services for personnel safety. Industry and government are required to have a designated confined space rescue team in order to obtain certain confined space entry permits. The Metro Urban Search & Rescue Team provides this service.

The team is deployable across the state of Oregon's Region South US&R team that consists of team members from the Eugene, Springfield, Albany, Corvallis and Salem fire departments. A cache of heavy rescue equipment is on-site at Eugene's Fire & EMS Headquarters complex in the Logistics Section, and is available to meet immediate community needs prior to deployment into other communities.

The team consists of 36 personnel deployed on the three shifts. Personnel are certified in four different disciplines: high-angle rope rescue, structural collapse, below-grade trench rescue, and confined space rescue. Team members maintain advanced certifications for crane/rigging

operations, team deployment/logistics management, and air monitoring and some have instructed US&R training at the state and national level.

Upon arrival, the Urban Search & Rescue Team is designated as the Rescue Branch or Group under the Incident Command System (ICS) organizational structure. The Team Leader or Supervisor confers with the Incident Commander to further assess:

- Risk/benefit analysis
- Additional resource needs
- Strategy and tactical priorities
- Scene security and control
- Incident documentation
- Air monitoring (confined space)
- Electrical vault or power line concerns
- Fire suppression standby (if applicable)
- Required notifications

Water Rescue Team

The Water Rescue Team is assigned to Station 1 (Downtown) and Station 5 (Gateway). Water Rescue responds out of these locations because of their close proximity to the Willamette River and the team's primary launch ramp located inside Skinner Butte Park. Water rescue services are provided for all ponds and waterways within city limits, and on the Willamette River a short distance outside the cities. The Willamette River accounts for most of the team's calls for service. Other boat launch site options include:

- Aspen Street and West D Street (Springfield, upstream and just north of Eugene)
- Alton Baker Park
- Belt Line Bridge
- East Hillcrest Drive

The team's 50 personnel are deployed among the three shifts, and provide surface boat-based rescue only. Personnel are certified in swift water rescue, and maintain state certification for Rescue Boat Operators.

Upon arrival, the Water Rescue Team is designated as the Water Rescue Branch or Group under the Incident Command System (ICS) organizational structure. The Team Leader or Supervisor confers with the Incident Commander to:

- Locate witnesses
- Establish "Last Seen Point"
- Analyze risk/benefit
- Secure and control the scene
- Determine boat launch / no-launch
- Maintain upstream and downstream safety during the rescue

Aircraft Rescue and Fire Fighting (ARFF)

ARFF is a special service that provides aircraft rescue and firefighting services to the Eugene Airport. ARFF services are assigned to Station 12 (Airport), located at Mahlon Sweet Field, and the ARFF services are provided entirely by on-duty fire personnel who have been trained in this work. Station 12 has the lowest staffing level within the Metro departments at two personnel – one Captain and one Engineer. The additional personnel are assigned to other stations, usually Station 7, 8, 9 or 11 which are the primary supporting units in an aircraft emergency response.

Construction of the new airport fire station at the Eugene Airport has been completed, and the station is now in service. ARFF resources are now able to meet the 3-minute FAA-required response time to the midpoint of either of the airport's two major runways, one of which is new.

In addition to aircraft rescue and firefighting services, ARFF firefighters respond on the airport property to structural fires, fire alarms, hazardous chemical spills and releases, and as the first tier in an emergency medical response.

The ARFF service is staffed from a pool of 28 certified fire suppression personnel of which nine are assigned to each of the three shifts. In addition, one additional line Captain and Engineer oversee the program and are designated ARFF Program Coordinators.

Establishment of an Effective Response Force

Once critical tasks have been identified and defined, an effective emergency response force can be established. This force is defined as the number of personnel and amount of equipment that must reach an incident in a specific response zone within the maximum response time goal. An effective response force must be trained and equipped to handle a variety of fire, rescue, special hazard, and emergency medical incidents, shortly after they are reported. In order to accomplish this, companies and units must be located close enough to the incident to arrive within the maximum prescribed response time for the full assignment of fire companies according to the risk level of the structure, situation, or event.

The risk of fire, medical emergency, or other emergency event can never be held to zero. Thus, the objective of any standards of coverage study is to identify the balance among distribution, concentration, and response reliability that will keep hazard risk at an acceptable level, while maximizing the preservation of life, property, and the environment.

A minimum effective initial response force has been determined, based on fire flow capabilities, critical fire ground tasking, rapid emergency medical intervention, and adequate and capable special rescue and hazard mitigation functions (see response packages under Call Types and Effective Response Force below).

In areas without fire hydrants, the standard response assignment is supplemented with water tenders (tank trucks) to meet the additional anticipated needs for water supply. Likewise, for specialty functions such as wildland fire response, aircraft rescue and firefighting, or special

rescue considerations, response packages are modified or augmented to include special equipment and/or trained personnel.

Special Risk/Hazard Response

For a special risk or hazard area, the initial standard response (Risk Area "A") package may be amended by responding company or chief officers based upon special conditions, reports, or use of the structure, facility, or area. Amending or augmenting the response package may include the dispatch of Metro department resources deemed appropriate for the mitigation of the reported incident.

Where incident notification clearly indicates that the incident involves hazardous materials beyond the management capabilities of the initial response company, the Metro Hazardous Materials Team may be ordered during response.

Where incident notification clearly indicates the need for technical rescue services, the Metro Urban Search & Rescue Team may be ordered during response. In addition, truck companies carry a smaller complement of technical rescue equipment, and a number of US&R team members routinely staff Springfield and Eugene's truck companies.

Call Types and Effective Response Force

With critical tasks determined and an effective response force for the Metro departments defined, a review of dispatch call types and their commensurate response packages (numbers of and types of units deployed on the initial response) will now be presented:

Public Service
- 1 Engine Company or 1 Truck Company

Non-Emergency Medical Check Patient
- 1 Engine Company, 1 Truck Company or 1 Medic Unit
  If a fire company and medic unit are equal distance from a call, the fire company (first response EMS) is dispatched to maintain the availability of the smaller ambulance resource base.

Emergency Medical
- 1 Engine Company or 1 Truck Company, 1 Medic Unit

Motor Vehicle Accident
- 1 Engine Company, 1 Truck Company, 1 Medic Unit

General Rescue
- 1 Engine Company, 1 Truck Company, 1 Chief Officer, 1 Medic Unit

Water Rescue
- On-duty Water Rescue Team, 2 Engine Companies, 1 Medic Unit, 1 Chief Officer

Structural Collapse Rescue

- On-duty US&R Team, 1 Engine Company, 1 Truck Company, 1 Medic Unit, 1 Chief Officer

Confined Space Rescue

- On-duty US&R Team, 1 Engine Company, 1 Truck Company, 1 Medic Unit, 1 Chief Officer

High Angle Rescue

- On-duty US&R Team, 1 Engine Company, 1 Truck Company, 1 Medic Unit, 1 Chief Officer

Fire Alarm Activation

- 1 Engine Company or 1 Truck Company
  If a truck company is the closest fire company, it responds Code-3 and one engine company responds Code-1.

Fire Alarm Activation - High Rise

- 2 Engine Companies, 1 Truck Company, 1 Chief Officer

Fire – Non Structural

- 1 Engine Company

Fire – Single-Family Dwelling

- 4 Engine Companies, 1 Truck Company, 2 Chief Officers, 1 Medic Unit

Fire – Commercial/Industrial/Multi-Family Dwelling

- 4 Engine Companies, 2 Truck Companies, 2 Chief Officers, 1 Medic Unit

Fire – High Rise

- 5 Engine Companies, 2 Truck Companies, 2 Chief Officers, 2 Medic Units
  Automatic 2nd alarm assignment is activated if smoke is showing on arrival.

Fire – Natural Cover Fire (October 1st through June 14th)

- 1 Engine Company or 1 Brush Engine or 1 Water Tender

Fire – Natural Cover Fire (June 15th through September 30th)

- 2 Engine Companies, plus 1 Chief Officer
  A Brush Engine or Water Tender may be dispatched in lieu of one Engine Company.

Airport Response – Small Aircraft

- 1 ARFF Unit, 1 Engine Company, 1 Chief Officer, 1 Medic Unit

Airport Response – Large Aircraft

- 1 ARFF Unit, 1 Truck Company, 1 Engine Company, 2 Water Tenders, 1 Chief Officer, 1 Medic Unit

Automatic Aid, Move-Up, and Mutual Aid

Within the existing interagency system, there are three basic types of aid agreements – Automatic Aid, Move-Up, and Mutual Aid. These aid agreements are used to augment existing resources through the provision of automatic aid and mutual aid.

Automatic Aid

Automatic aid is a formal agreement between two agencies where one or both parties are dispatched and respond automatically into a portion of the other party's jurisdiction. Under an automatic aid agreement, no request is required for assistance within the boundaries of the agreed-upon area. Automatic aid agreements currently exist with the Santa Clara Fire Protection District (to the north), Lane County Fire District #1 (to the west) for fire suppression and water tender support, Lane Rural Fire/Rescue (to the northwest) for fire suppression and ambulance response, and McKenzie Fire & Rescue (to the east) for fire suppression and medical response. Additionally, the Metro departments now operate under an integrated 3-Battalion System (two in Eugene, one in Springfield), automatically providing suppression and rescue services in the field as a single unified response force where the closest units respond throughout the system without regard to jurisdiction.

Move-Up

As a subsection of automatic aid, and part of the integrated response system, the Metro departments share an automatic move procedure for those instances when only one medic unit remains available in both jurisdictions. This move-up is provided for in SOP 207.27, "Medic Unit Move Up", which delineates the standby zone that the remaining unit must respond to and remain in position until dispatched to a call, or other units become available. This move-up agreement applies only to medic units. Fire unit standby is provided for in an associated policy and is enacted on an as-needed basis.

Mutual Aid

Mutual aid is a formal agreement between two or more agencies to respond into each other's jurisdiction, upon request, when the requesting agency's resources have been depleted or are projected to be depleted. Under most mutual aid agreements, the requesting party receives resources only if the providing agency can meet the request without depleting its own resources below an acceptable level. Under Lane County Code, a mutual aid agreement between ambulance service providers has this additional provision: "By mutual aid agreement, an ambulance service provider may respond to another provider's ASA (Ambulance Service Area). This plan does not apply to an ambulance that is passing through an ASA." [Lane County Code 18.020]

The Metro departments also have mutual aid agreements for fire protection with all Lane County fire departments and districts. These agreements are established through the Lane Fire Defense Board. Likewise, the Metro departments, like all Oregon fire service jurisdictions, have a much larger mutual aid agreement through the Oregon State Governor's Office, and managed by the Oregon State Fire Marshal's Office, under the Oregon State Emergency Conflagration Act. When invoked, this act provides resources from around the state, and even into other states. The cost of response is reimbursed by the State of Oregon.

SECTION FIVE: Service Level Goals

NFPA Standard 1710[2] outlines staffing, deployment, and response time standards for career fire departments. While the Metro departments have not adopted the response times in NFPA 1710 as a local standard, response time performance will be regularly measured against those times.

The Metro departments have adopted the response time standards stated in this section. These standards are based on the risk analysis of the service areas, the critical task analysis conducted by the departments, the historical performance of the departments, and, in the case of ambulance response time standards, the Lane County Code. We consider these to be local standards—a reasonable response to the level of risk in the community. They provide measures of the current levels of service the Metro departments provide to their service areas. In addition, we have identified areas for improvement and have set future service level improvement goals that are presented in Section 12.

Response Time Goals, All Emergency Incidents

With the adoption of this document, response time goals for the Metro departments are as follows for all emergency responses.

- Call processing: 2 minutes or less for 80% of all calls.
- Turnout: 2 minutes or less for 80% of all calls.
- Travel time for first arriving unit in Risk Area A: 5 minutes or less for 80% of all calls.
- Travel time for first arriving unit in Risk Area B: 9 minutes or less for 80% of all calls.

Response Time Goals, Structure Fires

In addition to the times specified for first arriving unit to all calls given above, the Metro departments have established the following goals for response to structure fires. For purposes of these goals, Risk Areas A and B are combined, due to the low number of structure fires occurring in Risk Area B.

- Travel time for all units needed for effective initial response to arrive on scene: 10 minutes or less for 80% of calls.
- Travel time for 15th person on scene (when this level of response is required): 11 minutes or less for 80% of calls.

[2] The National Fire Protection Association develops and publishes fire and life safety consensus standards, some of which address fire department organization, procedures, and activities.

Response Time Goals, Ambulance Transport

The Metro departments have adopted the following goals regarding ambulance transport service. These times apply to emergency response only. The zones are the geographic zones assigned by Lane County in its Ambulance Service Area Plan.

- Call processing: 2 minutes or less for 80% of all emergency calls for ambulance transport.
- Turnout time: 2 minutes or less for 80% of all emergency calls for ambulance transport.
- Response time (includes turnout time and travel time): Less than 10 minutes for 85% of all emergency calls in Zone 1 (urban).
- Response time (includes turnout time and travel time): Less than 20 minutes for 85% of all emergency calls in Zone 2 (suburban).
- Response time (includes turnout time and travel time): 45 minutes or less for 85% of all emergency calls in Zone 3 (rural).
- Response time (includes turnout and travel time): Greater than 45 minutes for emergency responses in Zone 4 (frontier).

Response Time Goals, Eugene Airport

The Metro departments have adopted the following goal for Aircraft Rescue and Fire Fighting (ARFF) response at the Eugene Airport. (Other types of calls at the airport – not aircraft related – are included in the relevant sections.) The ARFF response goal is based on the Federal Aviation Administration's Regulation Part 139.319(i)(2), which is the governing regulatory authority for this service. Since the notification of an aircraft emergency generally comes directly from the tower, call processing time is not included in our ARFF analysis. While the regulation does not specify a percentage of calls that must meet these performance goals, the Metro departments have adopted the 80th percentile as the performance goal for this service area.

- Travel time, including turnout time, to the incident or standby location: 3 minutes or less (80th percentile).

Context of Response Time Goals

Questions may be raised regarding any response time performance goals set. One position is that the goals are not stringent enough because they are not the same as those listed in NFPA 1710. What these goals do represent is a reasonable expectation of the level of service provided with the investment of public funds dedicated to the Metro departments' service areas. There will always be a need to balance service effectiveness with cost efficiency.

Section Five: Service Level Goals

The Metro departments have conducted this community risk assessment and deployment study in order to develop Standards of Response Coverage that recognize local authority, available resources, risk, and community expectations. It is the individual communities, through their elected officials, that dictate their own standards of coverage. By economic decisions with respect to taxation and budgeting, the communities purchase a level of "fire and life safety insurance" that is consistent with perceived needs, risks, and available resources. While these decisions may be influenced by such factors as insurance ratings prepared by the ISO, the level of protection available in any community is a local decision that should be made only after rigorous study of local needs and resources. It will continue to be the Metro departments' practice to build, staff, and deploy personnel and fire suppression and rescue assets at a level which can handle our anticipated calls for service the vast majority of the time.

SECTION SIX: Time and On-Scene Performance

The rapid and effective performance of highly-coordinated assigned tasks is the hallmark of a successful emergency response force. Time and on-scene performance expectations are the target indicators established for measuring the operational elements (individuals, crews, and work units) that comprise the Metro departments' response-ready resources.

Task performance standards and time requirements have been established by the Metro departments, and are evaluated annually through company and work unit evaluations. These performance standards reflect a number of essential competencies established by the National Fire Protection Association (NFPA), the Federal Aviation Administration (FAA), the American Heart Association (AHA), the National Association of Emergency Medical Technicians (NAEMT), the Oregon Department of Occupational Safety and Health Administration (OR-OSHA), and others.

Time Points and Intervals – The Cascade of Events

Over the years, response time data have been analyzed by the fire service industry using a variety of methods. In order to standardize the terminology used by departments around the United States and Canada, the Commission for Fire Accreditation International, Inc. (CFAI) has developed the following set of definitions to be used for describing the individually recognized components of response time. These elements can be appropriately viewed as an interrelated cascading sequence of events, consisting of a series of points in time separated by intervals. The Metro departments have adopted the following definitions, which are consistent with those given by CFAI.

Event Initiation – the point at which events occur that may ultimately result in an activation of the emergency response system. Precipitating events can occur seconds, minutes, hours, or even days before a point of awareness is reached. It is rarely possible to quantify the point at which event initiation occurs.

Emergency Event Awareness – the point at which an individual or technological sentinel (e.g., smoke or heat detector) becomes aware that conditions exist which require an activation of the emergency response system.

Alarm – the point at which awareness triggers an effort to notify the emergency response system. An example of this is the transmittal of a local or central alarm to a designated public safety answering point (PSAP).

Notification – the point at which an alarm is received by the PSAP. This transmittal may take the form of an electronic or mechanical notification process to the point at which a call is received and answered within the jurisdictional PSAP.

Call Processing Time – the interval between the first ring of the 911 telephone at the communications center and the time the dispatcher activates station, crew and/or individual alerting devices. This interval can also be further divided into two additional sub-intervals: 1)

"call-taker interval," which is the time from the first ring of the 911 telephone until the call-taker subsequently transfers the call information to the dispatcher; and 2) *"dispatcher interval,"* which is the interval from the time when the call-taker transfers the call to the dispatcher until the dispatcher activates all applicable alerting devices for emergency responders.

Turnout Time – the interval between the activation of station and/or crew alerting devices and the delivery of specific dispatch information to emergency personnel, and the time when the responding crew notifies the dispatch center that the company is en route. During the turnout interval, crews immediately cease all other activities, don appropriate protective clothing, determine the location of the call, board and start the appropriate response vehicle. The en route notification to dispatch is typically made when all personnel are aboard the apparatus, and the vehicle begins traveling toward the call location. The established benchmark for an acceptable turnout interval is 60 seconds.

En Route – the point at which the responding unit signals the dispatch center that they are responding to the call for service or traveling toward the hospital or other appropriate receiving facility. On calls in which a patient is transported, there are two en route times (to the call and then to the medical receiving facility).

Travel Time – the interval that begins at the time of the en route notification and ends when the responding unit notifies the dispatcher that it has arrived on scene.

Arrival (On-scene) Time – the point at which the first responding unit arrives on scene or the transport unit arrives at the receiving facility. Arrival is determined by actual physical arrival in front of the address or at the address of the emergency as displayed by the CAD.

On-Scene Interval – the interval which begins at the arrival time on scene and ends with one of the following situations: 1) the official termination of the incident; 2) the point when an ambulance is en route transporting the patient to a receiving facility; or 3) when one or more units have completed the response assignment and are made available to respond to other requests for service. This time interval can be lengthy and may include a variety of fire ground and emergency incident activities. Other factors to consider are access problems associated with campuses, malls, complexes, high-rise buildings, rural locations, and other incidents where a significant amount of area or terrain must be traversed in order to reach the patient or specific location of the incident.

Transport Time – the second travel time interval for a medical transport call which begins at the termination of on-scene time and ends upon arrival at the hospital or other designated medical receiving facility.

Drop Time – on a medical transport call, the interval which begins upon arrival at the receiving facility and ends when the ambulance crew has alerted the communications center that the unit is restocked, cleaned, and ready to respond to another call for service.

Termination of Incident – the point at which the designated incident commander notifies the communications center that the assignment has been completed and the units assigned are either out of service, or are available to respond to other requests for service.

Task Time – the total time interval from notification time through termination of the incident. It reflects the period of time response resources are committed and unavailable for other service requests.

Response Time – includes the elements of responding to an incident that are directly under the control of the responding agency (i.e., turnout time plus travel time).

Customer Time – the Metro departments have developed this interval measure as an indicator of the calling party's perception of the emergency response. It includes those factors that reflect the performance of the entire response system, whether or not the departments directly control those elements. This interval adds the call processing interval to the response time interval.

Time Methodology Description

There are two basic components to a performance standard – measurable task (e.g., response time), and level of performance. This is normally stated in terms of an average or a percentage (fractile) of the amount of such tasks that fall at or below the desired level (e.g., 80%).

Using this evaluation methodology, an organization can clearly articulate its performance standards and goals in a manner that is easily understood. For example, the statement, "The fire apparatus will leave the station within 60 seconds of alarm activation, at least 75% of the time," is a performance goal that can clearly be understood by everyone.

Performance can be measured in a number of ways, including average (mean), fractile, and median (center value). While average times have some utility, they are not wholly useful measures of performance unless coupled with some measures which describe the "shape" of the performance curve, such as variances or standard deviation. Two fire departments can report the same "average" response time, yet the two communities can receive vastly different services. For example, *City A*, with a 4-minute average response time, could have response times falling somewhere between 3 and 5 minutes. *City B*, with the same 4-minute average response time, could have a few calls with a response time of less than one minute and some calls with a response time of 10 minutes or longer. Thus, the use of "averages" has the effect of concealing, rather than clearly demonstrating, true response performance for an agency.

The following definitions will help complete the analysis picture:

Average – Also known as the mean, it is calculated by adding all of the times and dividing by the total number of incidents.

80th and 85th Percentiles – These are the interval times in 80% and 85% of all incidents respectively.

While no single measure tells the entire story, the Metro departments have chosen to use fractile measures in performance standards because they represent the large majority of tasks completed in specific timeframes and give a good indication of the level of service our communities can expect to receive.

Exception Reporting

Several factors that are beyond the Metro departments' direct control may adversely affect emergency response times. When calculating response time performance, the Metro departments remove calls that appear, after review, to be exceptions or outliers within the data curve. Examples of exceptions or outliers are:

- Calls initiated as "Code 3" but unit slowed to "Code 1" while en route.
- Calls clearly miscoded by dispatch where this results in invalid data.

The Human Factor

Totally accurate measurement of the time points and intervals described above would require instantaneous and precise communication by response personnel and data entry by dispatch personnel. On some calls this is not the case, because members of either group may be performing two or more tasks at one time, or because simple human error has occurred, resulting in a delay or omission of a status report or of data entry. Any such case, however, would have the effect of lengthening, and not ever of reducing the time interval preceding it. Therefore, it can be assumed that the Metro departments' response time performance is actually a bit better than indicated in all of the measurements given below.

Response Time Performance Tables

Response times for fiscal year 2009 through fiscal year 2011 are listed below. **The times shown include only Code 3, or emergency response calls.** The first set of tables reflects response times for first arriving apparatus to all areas. Risk Area "A" calls are those within the city limits, River Road Water District, Glenwood RFPD and Rainbow RFPD. Risk Area "B" includes calls within the remaining contracted fire districts – Bailey/ Spencer, Willakenzie, Zumwalt and Eugene Rural Fire District #1.

Response times are shown for three consecutive years – fiscal year 2009 through fiscal year 2011. A number of key deployment changes occurred during this time period, and changes in system performance between years reflect the impact of those changes, as well as the more general impact of increased demand for service.

It is important to note that in the following tables, turnout time plus travel time does not necessarily equal response time because typically each mean is derived from a different group of calls. In other words, the calls within a certain percentile for turnout time may not be the exact group of calls that were within the same percentile for travel time.

Tables 6.1 Emergency Response Times to All Areas

FY09 (July 1, 2008 – June 30, 2009)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:56	00:01:45	00:04:31	00:05:58
	80th Percentile	00:01:05	**00:02:05**	00:05:44	00:07:19
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:48	00:01:34	00:03:07	00:04:28
	80th Percentile	00:00:56	00:01:51	00:04:06	00:05:37

FY10 (July 1, 2009 – June 30, 2010)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:44	00:01:41	00:03:44	00:05:29
	80th Percentile	00:00:53	**00:02:02**	00:05:10	00:06:55
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:43	00:01:31	00:03:03	00:04:22
	80th Percentile	00:00:47	00:01:48	00:04:07	00:05:34

FY11 (July 1, 2010 – June 30, 2011)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:47	00:01:35	00:03:46	00:05:13
	80th Percentile	00:00:52	**00:02:03**	00:05:15	00:06:51
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:40	00:01:28	00:03:04	00:04:23
	80th Percentile	00:00:47	00:01:49	00:04:08	00:05:36

*Service Goals for this category:

Call processing: < = 2 min 80%

Turnout: < = 2 min 80%

Travel: no travel time goal established for risk areas A and B combined

Tables 6.2 Emergency Response Times to Risk Area "A" Calls

FY09 (July 1, 2008 – June 30, 2009)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:56	00:01:41	00:04:06	00:05:33
	80th Percentile	00:01:03	**00:02:04**	**00:05:19**	00:06:53
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:48	00:01:34	00:03:05	00:04:26
	80th Percentile	00:00:56	00:01:51	00:04:04	00:05:34

FY10 (July 1, 2009 – June 30, 2010)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:44	00:01:40	00:03:42	00:05:26
	80th Percentile	00:00:53	**00:02:02**	**00:05:07**	00:06:51
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:43	00:01:31	00:03:02	00:04:21
	80th Percentile	00:00:47	00:01:48	00:04:05	00:05:31

FY11 (July 1, 2010 – June 30, 2011)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:47	00:01:35	00:03:44	00:05:10
	80th Percentile	00:00:52	**00:02:03**	**00:05:11**	00:06:48
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:40	00:01:28	00:03:02	00:04:21
	80th Percentile	00:00:47	00:01:49	00:04:05	00:05:33

*Service Goals for this category:

Call processing: < = 2 min 80%

Turnout: < = 2 min 80%

Travel: < = 5 min 80% in Risk Area A

Tables 6.3 Emergency Response Times to Risk Area "B" Calls

FY09 (July 1, 2008 – June 30, 2009)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:57	00:02:06	00:06:49	00:08:15
	80th Percentile	00:01:12	**00:02:10**	00:08:42	00:10:13
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:01:08	00:01:50	00:04:47	00:06:20
	80th Percentile	00:01:03	00:02:01	00:06:14	00:07:39

FY10 (July 1, 2009 – June 30, 2010)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:57	**00:03:01**	00:06:24	00:08:34
	80th Percentile	00:01:04	00:01:58	**00:09:16**	00:10:56
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:37	00:01:18	00:04:32	00:05:47
	80th Percentile	00:00:45	00:01:39	00:05:44	00:07:07

FY11 (July 1, 2010 – June 30, 2011)					
		Processing	**Turnout**	**Travel**	**Response**
Eugene	**Average**	00:00:49	00:01:35	00:06:50	00:08:19
	80th Percentile	00:00:58	**00:02:03**	**00:09:25**	00:11:07
		Processing	**Turnout**	**Travel**	**Response**
Springfield	**Average**	00:00:43	00:01:35	00:04:42	00:06:05
	80th Percentile	00:00:49	00:01:46	00:05:53	00:07:16

*Service Goals for this category:
Call processing: < = 2 min 80%
Turnout: < = 2 min 80%
Travel: < = 9 min 80% in Risk Area B

Ambulance Emergency Response Times

The ambulance emergency response time tables also include on-scene time, transport time, drop time, and overall task time. While there are not specifically established goals for these intervals, they are shown here as a measure of the timely completion of tasks associated with these calls, as well as the time it takes these units to return to available status.

Tables 6.4 Ambulance Emergency Calls to All Areas

FY09 (July 1, 2008 – June 30, 2009)								
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Eugene	**Average**	00:01:34	00:07:23	00:08:54	00:13:33	00:15:37	00:19:17	00:42:09
	90th Percentile	00:02:38	00:13:41	00:15:27	00:21:16	00:25:18	00:30:27	01:11:08
	80th Percentile	**00:02:12**	00:10:08	00:11:49	00:17:57	00:20:15	00:23:37	01:01:18
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Springfield	**Average**	00:01:25	00:06:44	00:08:05	00:11:16	00:11:31	00:15:01	00:34:25
	90th Percentile	00:02:23	00:13:46	00:15:16	00:17:46	00:20:57	00:24:41	01:01:12
	80th Percentile	00:01:59	00:09:04	00:10:34	00:14:46	00:15:15	00:17:42	00:48:35

FY10 (July 1, 2009 – June 30, 2010)								
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Eugene	**Average**	00:01:33	00:07:18	00:08:48	00:12:26	00:15:09	00:17:05	00:37:42
	90th Percentile	00:02:36	00:13:34	00:15:12	00:19:15	00:24:39	00:24:30	01:05:20
	80th Percentile	**00:02:10**	00:10:00	00:11:42	00:16:08	00:19:34	00:18:31	00:56:36
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Springfield	**Average**	00:01:24	00:06:41	00:08:03	00:10:34	00:11:19	00:13:58	00:32:51
	90th Percentile	00:02:19	00:13:28	00:14:49	00:16:27	00:19:56	00:20:16	00:56:36
	80th Percentile	00:01:57	00:08:47	00:10:19	00:13:45	00:14:51	00:16:18	00:45:47

FY11 (July 1, 2010 – June 30, 2011)								
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Eugene	**Average**	00:01:37	00:07:32	00:09:05	00:12:04	00:15:37	00:16:33	00:45:42
	90th Percentile	**00:02:43**	00:14:03	00:15:48	00:18:49	00:25:53	00:22:39	01:08:17
	80th Percentile	**00:02:16**	00:10:22	00:12:08	00:15:45	00:20:19	00:17:20	00:59:11
		Turnout	**Travel**	**Response**	**On Scene**	**Transport**	**Drop**	**Task**
Springfield	**Average**	00:01:30	00:06:51	00:08:17	00:10:48	00:11:17	00:13:48	00:38:22
	90th Percentile	**00:02:29**	00:13:40	00:15:11	00:17:02	00:19:26	00:18:24	00:59:17
	80th Percentile	**00:02:05**	00:09:06	00:10:37	00:14:09	00:14:29	00:16:05	00:47:53

*Service Goal for this category:
Turnout: < = 2 min 80%

Tables 6.5 Ambulance Response Times by Zone

FY09 Ambulance Emergency Response Time Report by Response Zone				
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Eugene	Zone 1 – Less than 10 minutes	8,559	6,343	**74%**
	Zone 2 – Less than 20 minutes	202	178	88%
	Zone 3 – 45 minutes or less	407	406	99.8%
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Springfield	Zone 1 – Less than 10 minutes	4,707	4,281	91%
	Zone 2 – Less than 20 minutes	591	546	92%
	Zone 3 – 45 minutes or less	301	276	92%
	Zone 4 – Greater than 45 minutes	2	2	100%

FY10 Ambulance Emergency Response Time Report by Response Zone				
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Eugene	Zone 1 – Less than 10 minutes	8,186	6,240	**76%**
	Zone 2 – Less than 20 minutes	171	154	90%
	Zone 3 – 45 minutes or less	488	488	100%
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Springfield	Zone 1 – Less than 10 minutes	4,347	3,986	92%
	Zone 2 – Less than 20 minutes	548	514	94%
	Zone 3 – 45 minutes or less	293	268	91%
	Zone 4 – Greater than 45 minutes	1	1	100%

FY11 Ambulance Emergency Response Time Report by Response Zone				
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Eugene	Zone 1 – Less than 10 minutes	8,861	6,501	**73.4%**
	Zone 2 – Less than 20 minutes	208	166	**79.8%**
	Zone 3 – 45 minutes or less	483	483	100.0%
	Response Time Goal	**Total Number of Calls**	**Number of Calls Within Goal Time**	**Percentage of Calls Within Goal Time**
Springfield	Zone 1 – Less than 10 minutes	4,717	4,287	90.9%
	Zone 2 – Less than 20 minutes	568	515	90.7%
	Zone 3 – 45 minutes or less	307	265	86.3%
	Zone 4 – Greater than 45 minutes	5	5	100.0%

· Response time compliance goal is 85%.

The percentages within goal time for Zone 1 are slightly below the Metro departments' established goals. These are the result of several contributing factors:

- The CAD system requires a time stamp when an "enter" key is hit, as times cannot be entered manually. If a busy dispatcher is slow to hit the time stamp key, a delayed time is logged.
- New development has brought more congestion to an aging street network, and a proliferation of traffic calming devices in the community has slowed emergency response.
- In 2008, the primary hospital facility in the area moved from central Eugene to north Springfield, lengthening ambulance travel time for Eugene-based units to and from the facility and reducing time available in the assigned response area. At the same time, the hospital move has improved this statistic for Springfield-based units.
- The demographic trend toward a larger senior population has manifested itself in the opening of several new, large assisted-living facilities in the response area. The partnership with Rural Metro Ambulance (a private corporation) is one step that has been taken to adapt to this change. Rural Metro Ambulance went into service in Eugene in March of 2009, and in Springfield in November of 2010.

Among the options under consideration to address projected financial shortfalls in EMS is the possibility of ambulance service area (ASA) boundary adjustments that would result in an urban-rural split, which could, by eliminating or reducing transport responses into Zone 3, free up sufficient resources to meet the goal in a newly configured ASA.

Eugene will continue to evaluate the results of their contract with the private provider to handle alpha and bravo responses to medical and residential facilities.

Response Time Performance – Structure Fires

NFPA Standard 1710 outlines response time standards for career fire departments. For response to a structure fire, the standard is based upon the time it takes to assemble a fire suppression force of either 14 personnel, or 15 for fires where an aerial ladder device is required. In conservatively developing this measure for the Metro departments, the time for 15 personnel to arrive on scene was calculated, even though at a majority of fire incidents in Eugene and Springfield an aerial ladder is not used, and the applicable goal would actually be 14 personnel. As a result, it can be reasonably inferred that the time to assemble a full first-alarm assignment of personnel will sometimes be less than what is indicated in the table.

The 15 personnel standard is based on the presumed need for fire suppression capability to perform the following functions and the number of personnel required to complete each in a timely manner.

- Incident Command (1)
- Water supply (1)
- Water flow application (2 hand lines with 2 personnel on each)
- Hand line support (1 for each of the 2 hand lines)

- Search and rescue (2)
- Ventilation (2)
- Initial rapid intervention crew (2)
- Aerial device operation (1)

The following tables show actual response performance for structure fires for the Metro departments during fiscal year 2009, fiscal year 2010, and fiscal year 2011.

We have included response times for all structure fires and have indicated the travel time for the last-arriving unit of the initial dispatch. This is generally the period of time it takes to assemble an effective initial response force. Many structure fire responses do not actually require the full 15-personnel response. A response of fewer than 15 personnel would usually occur when first-arriving crews determine during their initial size-up that the fire does not require the full first alarm response resources and cancel, or return, some of the responding crews. More detail about on-scene operations is provided in Section Four. For the tables below, we have measured the travel time for the 15th person to arrive at only those structure fire incidents where 15 or more personnel were needed.

On these tables, the travel time for the 15th person is greater than that for the last arriving unit because, in more than half the cases, 15 people were not needed, and so only some of the units initially dispatched actually arrived on-scene.

In analyzing the following tables it should also be recognized that a very few structure fires in Risk Area B (neighboring contract districts not in Risk Area A) can result in a disproportionate increase in combined response times for all structure fires. However, the times nevertheless are within the Metro departments' stated travel time goals.

Tables 6.6

FY09 Response Time Performance for Structure Fires

	Call Processing 80th Percentile	Turnout 80th percentile	First Arriving Unit 80th% -Travel Time	Last Arriving Unit in Initial Dispatch 80th% -Travel Time	Arrival of 15th Person (when needed) 80th% -Travel Time
Eugene's Service Area	01:05	01:38	03:54	08:16	09:38
Springfield's Service Area	00:54	02:24	03:25	09:17	09:58

FY10 Response Time Performance for Structure Fires

	Call Processing 80th Percentile	Turnout 80th percentile	First Arriving Unit 80th% -Travel Time	Last Arriving Unit in Initial Dispatch 80th% -Travel Time	Arrival of 15th Person (when needed) 80th% -Travel Time
Eugene's Service Area	01:00	02:19	04:13	09:19	07:54
Springfield's Service Area	00:48	02:21	04:40	08:41	08:07

FY11 Response Time Performance for Structure Fires

.

	Call Pro-cessing 80th Percen-tile	Turnout 80th percentile	First Arriving Unit 80th% -Travel Time	Last Arriving Unit in Initial Dispatch 80th% -Travel Time	Arrival of 15th Person (when needed) 80th% -Travel Time
Eugene's Service Area	00:01:04	00:02:17	00:04:14	00:09:54	00:08:13
Springfield's Service Area	00:00:59	00:02:21	00:04:04	00:10:23	00:08:31

· Risk Areas A&B were not separated in these tables due to the low number of structure fires in Risk Area B.

*Service Goals for this category:

Travel time: < = 5 min, first arriving unit (80th percentile, Risk Area A only)

Travel time: < = 10 min., last arriving unit in initial dispatch (80th percentile, both risk areas)

Travel time: < = 11 min., 15th person on scene

<u>Response Time Performance – Eugene Airport</u>

Response time performance for Aircraft Rescue and Fire Fighting (ARFF) is shown in the tables below, and were calculated on Priority 1 (emergency) incidents, including fire alarm, and hazardous material incidents, as well as those involving aircrafts. Since notification of the pending emergency generally comes via the air traffic control tower, call processing times are not included.

Tables 6.7 Response Times for ARFF Incidents

FY09 (July 1, 2008 – June 30, 2009)			
	Turnout	**Travel**	**Response**
Average	00:01:08	00:03:13	00:03:16
80th %	00:01:20	00:05:48	**00:05:56**

FY10 (July 1, 2009 – June 30, 2010)			
	Turnout	**Travel**	**Response**
Average	00:01:10	00:01:57	00:03:14
80th %	00:01:34	00:03:12	**00:05:17**

FY11 (July 1, 2010 – June 30, 2011)			
	Turnout	**Travel**	**Response**
Average	00:01:10	00:01:35	00:02:44
80th %	00:01:34	00:02:54	00:03:55

SECTION SEVEN: Distribution of Resources

The term "distribution" describes the resource locations needed to minimize and terminate emergencies by assuring a sufficiently rapid first due response deployment. Distribution is measured by the percentage of the jurisdiction covered by first-in, or primary, response companies within the adopted response time goals.

This view of the Metro response system analyzes fire and EMS resource deployment in terms of a static placement of resources and their theoretical response potential. By taking this theoretical view of the system it is possible to determine whether or not response standards can be met from existing infrastructure and with current staffing levels, when all companies and units are in quarters and available for emergency response.

The Metro departments use a variety of factors to determine optimal site locations for their fire stations. These factors include pertinent national standards, including NFPA, the Insurance Services Office (ISO), and the American Heart Association with regard to cardiac arrest, covering both response time (how fast) and deployment standards (how many and what type of resources on scene). In addition, sophisticated Site Locator Studies, using geospatial analysis, have been conducted for the departments by the Lane Council of Governments (LCOG). Numerous time-and-distance studies have been performed over time to measure actual distances and travel times across the Metro service area.

The Metro departments current fire station positioning provides for an efficient distribution of the available emergency response resources. In developing this infrastructure, the goal was to balance the elements that comprise a favorable fire station site configuration and three additional areas of consideration that the departments apply when selecting station locations. These are:

- Placement - Geographic spacing between fire stations that considers natural and human-made obstacles or barriers, and provides for coverage efficiency balanced with depth of coverage through limited response zone overlap.

- Response Routes - Proximity and access to multi-directional transportation corridors, sized appropriately for fire apparatus and referred to as "run streets".

- Property Acquisition - Availability, lot size, and the cost of suitable sites within the parameters of factors #1 and #2 above.

Currently, the Metro departments operate out of 16 fire stations divided into three geographically defined districts: Battalion One (central), Battalion Two (west), and Battalion Three (east). Staffing minimums are represented below as the minimum number of personnel assigned to each company or unit per shift.

Battalion One (central):

Station 1 – "Downtown Station" – 1320 Willamette Street

Battalion Chief 1	(1)
Engine 1	(3)
Truck 1	(3)
Medic 1	(2)
Water Rescue 1	(staffed by Engine and Truck crews as needed)

Station 6 – "Sheldon Station" – 2435 Willakenzie Road

Engine 6	(3)
Medic 6	(2) (staffed during peak hours)

Station 9 – "Valley River Station" – 697 Goodpasture Island Road

Engine 9	(3)
HazMat 2	(Oregon Regional HazMat Team)

Station 13 – "University Station" – 1695 Agate Street

Engine 13	(3)
Brush 13	(staffed by Engine 13 crew as needed)

Station 15 – "South Hills Station" – 80 E. 33rd Avenue

Engine 15	(3)
Brush 15	(staffed by Engine 15 crew as needed)

Battalion Two (west):

Station 2 – "Whiteaker Station" – 1725 W. 2nd Avenue

Battalion Chief 2	(1)
Engine 2	(3)
Tower 2	(3)
Water Tender 2	(staffed by Engine or Truck crew as needed)
US&R	(staffed by on-duty personnel for smaller routine calls, off duty call back for larger incidents)

Station 7 – "Bethel Station" – 4664 Barger Drive

Engine 7	(3)

Station 8 – "Danebo Station" – 500 Berntzen Road

Ladder 8	(3)
Water Tender 8	(staffed by Engine 8 crew as needed)
Medic 8	(staffed by Engine 8 crew as needed)

Station 10 – "Bailey Hill Station" – 2002 Bailey Hill Road

Engine 10	(3)
Brush 10	(staffed by Engine 10 crew as needed)
Medic 10	(2)

Station 11 – "Santa Clara Station" – 111 Santa Clara Avenue

Engine 11	(3)
Medic 11	(2)

Station 12 – "Airport Station" – 90711 Northrup Drive

Airport 1	(2)
Airport 2	(staffed by 2nd arriving qualified fire company)
Disaster Trailer	(deployed by airport workers as needed)

<u>Battalion Three (east):</u>

Station 3 – "28th Street Station" – 1225 N. 28th Street

Battalion Chief 3	(1)
Tower 3	(3)
Medic 3	(2)

Station 4 – "5th Street Station" – 1475 5th Street

Engine 4	(3)
Heavy Rescue 4	(staffed by Engine 4 crew and callback as needed)

Station 5 – "Gateway Station" – 2705 Pheasant Street

Engine 5	(3)
Medic 5	(2)

Station 14 – "48th Street Station" – 4765 Main Street

Engine 14	(3)

Station 16 – "Thurston Station" – 6853 Main Street

Engine 16	(3)
Medic 16	(2)
Brush Rig 16	(staffed by Engine 16 crew as needed)

Logistics Facility – 1715 W. 2nd Avenue

ALL Truck	(staffed by Logistics staff as needed)
Medic 95 (reserve)	
MCI Trailer	
USAR Trailer	

SECTION EIGHT: Concentration of Resources

Concentration refers to the spacing of multiple resources within close enough proximity to allow an initial effective response force to be assembled on scene within prescribed timeframes. An initial effective response force is one that has been deemed capable of stopping the escalation of a fire emergency, stabilizing a medical scene, effecting a rescue, and successfully handling an incident.

Analysis of unit concentration must take into account the substantial reliance of all of the region's fire service organizations on mutual and automatic aid. This refers to mixed jurisdictional response packages that may comprise 1st, 2nd, 3rd, 4th or 5th alarm assignments.

Table 6.6 in Section Six provides the best data for analyzing the Metro departments' concentration of units measured against the NFPA 1710 and OSHA standards for response to structure fires. Responses to the entire fire protection area (Risk Categories A and B) were included, because OSHA applies to all structure fire responses, and NFPA 1710 does not distinguish between different risk areas for this purpose.

Our existing concentration of resources allows us to meet the goal of providing an effective initial response force (whether or not the incident ultimately warrants a 15-person response) in less than 10 minutes 80 percent of the time, and also allows us to meet the goal of having a 15th person on-scene, when needed, in less than 11 minutes 80 percent of the time, in Response Areas "A" and "B" combined.

To deploy 15 firefighters on scene requires our basic structural fire response package comprised of the following (which actually deploys 16 firefighters):

TYPE OF COMPANIES/UNITS	NUMBER OF COMPANIES/UNITS	NUMBER OF FIREFIGHTERS
Engines	3	9
Truck	1	3
Dual-Role Medic Unit	1	2
Chief Officer	2	2

· The response shown in this table is for a single-family dwelling fire. For multi-unit dwellings, commercial, industrial, or high-rise fires, larger response assignments comprise the 1st alarm response. The current Metro response to a basic structure fire is actually supplemented by one additional engine company for 19 personnel. This increase in response personnel has positive implications for firefighter safety and increased on scene efficiency.

As explained in the text accompanying Table 6.6, this response is dispatched for a structure fire, but first-arriving units find, in more than half of the cases, that a smaller response will be sufficiently effective in mitigating the emergency. In those cases, other units en route are instructed to return to quarters, and a 15th person does not arrive on-scene.

As the population of the community increases and response reliability decreases, adding units to existing fire stations is a method of increasing the concentration of resources that must be seriously considered. At the same time, additional units add to safety as well as increase overall coverage, service delivery, and response reliability, while decreasing response time.

The safety of the public and firefighters must remain a priority when apportioning additional resources and planning for the future. With the ever-increasing challenges posed by rising costs and revenues that have not in recent years kept pace with the cost curve, fire managers are faced with constructing response plans that stretch response resources and personnel. The balance is to achieve efficiency while still meeting the safety standards such as the OSHA-mandated Two-In/Two-Out rule and NFPA 1710.

In addition, there is the concept of deploying additional response resources during periods of peak activity to increase concentration of resources and response reliability, while decreasing response time. What makes this deployment model attractive is the matching of additional resources during periods of increased call volume, when needed, which also coincides with traditional periods of on-duty training and periods of high traffic congestion which slows response.

Finally, the Metro departments' ability to concentrate resources is receiving some assistance from automatic aid agreements that provide for mixed jurisdictional response packages on and around borders that exist with Lane County Fire Protection District #1 to the south and west, and the Lane Rural Fire/Rescue District to the northwest. An automatic backfill agreement is also in place with the Santa Clara Rural Fire Protection District to the north.

SECTION NINE: Response Reliability

Response reliability is the probability that the resources assigned to a territory will be available to respond from within that territory when an emergency occurs in that area. Response reliability would be 100% if every company were available in its station when a fire or emergency call is received. In reality, there are times when a call is received when the first-due company is out of area or unavailable. This requires that a later-due company, in the pre-determined response order, be assigned. If the later-due company is too far away, the call cannot be handled within the desired travel time.

As the number of emergency calls per day, training demands, and other routine activities increase, so does the probability that the first-due company will be out of area or unavailable when a call is received (decreased reliability). The following tables give response reliability figures for Metro fire stations and the overall system for the past three fiscal years.

Table 9.1 July 1, 2008 – June 30, 2009

Station Fire Response Area	Emergency Incidents	1st Due Company Dispatched	1st Due Company Not Dispatched	Response Reliability
Station 1 – Eugene	2,742	2,045	697	74.58%
Station 2 – Eugene	1,468	1,333	135	90.80%
Station 3 – Springfield	1,128	944	184	83.69%
Station 4 – Springfield	1,662	1,405	257	84.54%
Station 5 – Springfield	1,502	1,239	263	82.49%
Station 6 – Eugene	1,393	1,258	135	90.31%
Station 7 – Eugene	1,252	1,024	228	81.79%
Station 8 – Eugene	1,205	931	274	77.26%
Station 9 – Eugene	868	728	140	83.87%
Station 10 – Eugene	1,079	987	92	91.47%
Station 11 – Eugene	1,125	1,056	69	93.87%
Station 12 – Eugene	44	39	5	88.64%
Station 13 – Eugene	617	450	167	72.93%
Station 14 – Springfield	1,197	1,043	154	87.13%
Station 15 – Eugene	1,296	1,060	236	81.79%
Station 16 – Springfield	616	545	71	88.47%
Total – Eugene	**13,089**	**10,911**	**2,178**	**83.36%**
Total – Springfield	**6,105**	**5,176**	**929**	**84.78%**
Grand Total Combined Agencies	**19,194**	**16,087**	**3,107**	**83.81%**

Table 9.2 July 1, 2009 – June 30, 2010

Station Fire Response Area	Emergency Incidents	1st Due Company Dispatched	1st Due Company Not Dispatched	Response Reliability
Station 1 – Eugene	2,758	2,061	697	74.73%
Station 2 – Eugene	1,350	1,245	105	92.22%
Station 3 – Springfield	1,005	854	151	84.98%
Station 4 – Springfield	1,580	1,250	330	79.11%
Station 5 – Springfield	1,454	1,184	270	81.43%
Station 6 – Eugene	1,354	1,123	231	82.94%
Station 7 – Eugene	1,199	1,020	179	85.07%
Station 8 – Eugene	1,064	890	174	83.65%
Station 9 – Eugene	884	753	131	85.18%
Station 10 – Eugene	1,108	942	166	85.02%
Station 11 – Eugene	1,167	1,072	95	91.86%
Station 12 – Eugene	44	39	5	88.64%
Station 13 – Eugene	601	444	157	73.88%
Station 14 – Springfield	1,125	987	138	87.73%
Station 15 – Eugene	1,277	1,082	195	84.73%
Station 16 – Springfield	527	469	58	76.77%
Total – Eugene	**12,806**	**10,671**	**2,135**	**83.33%**
Total – Springfield	**5,691**	**4744**	**947**	**83.36%**
Grand Total Combined Agencies	**18,497**	**15,415**	**3,082**	**83.34%**

Table 9.3 - July 1, 2010 – June 30, 2011

Station Fire Response Area	Emergency Incidents	1st Due Company Dispatched	1st Due Company Not Dispatched	Response Reliability
Station 1 – Eugene	2,705	2,406	299	88.95%
Station 2 – Eugene	1,773	1,685	88	95.04%
Station 3 – Springfield	1,019	827	192	81.16%
Station 4 – Springfield	1,759	1,424	335	80.96%
Station 5 – Springfield	1,613	1,323	290	82.02%
Station 6 – Eugene	1,641	1,344	297	81.90%
Station 7 – Eugene	1,243	1,059	184	85.20%
Station 8 – Eugene	1,173	984	189	83.89%
Station 9 – Eugene	895	763	132	85.25%
Station 10 – Eugene	1,263	1,100	163	87.09%
Station 11 – Eugene	1,137	1,048	89	92.17%
Station 12 – Eugene	48	45	3	93.75%
Station 13 – Eugene	725	659	66	90.90%
Station 14 – Springfield	1,188	1,073	115	90.32%
Station 15 – Eugene	1,254	1,117	137	89.07%
Station 16 – Springfield	583	534	49	91.60%
Total – Eugene	**13,857**	**12,210**	**1,647**	**88.11%**
Total – Springfield	**6,162**	**5,181**	**981**	**84.08%**
Grand Total Combined Agencies	**20,019**	**17,391**	**2,628**	**87.45%**

It is important to remember that response reliability figures alone are not an entirely accurate measurement of the overall reliability of the system. This is true not only because the system includes dynamically deployed response resources, but also because units responding outside their normal first-response area are covering for units temporarily assigned elsewhere (training, etc.). Actual response times are a far superior measure of the effectiveness of the entire system.

The primary purpose of measuring response reliability is to show where call volume is significant enough to indicate a need for a greater concentration of resources or possibly the need for a peak activity unit.

SECTION TEN: Historical Perspective

The evaluation of historical performance is accomplished by looking at data describing actual responses, and answering questions based on that data.

Question #1. *Are the Metro departments meeting historic response time goals? If not, why not?*

For a number of reasons the Metro departments are not meeting all of the response time goals that were set years ago. Fortunately the shortcomings are small, and the goals remain realistic to the extent that the issues described below can be effectively addressed.

The Lane Council of Governments conducted a comprehensive *Fire Station Location Study* for Eugene in 1990, and updated the study in 1993 and 1998. This information was useful in identifying areas that were underserved, based on response times and travel distances from existing fire stations in Eugene.

The findings of these studies and the associated analysis eventually led to the fire redeployment projects of the 1990s. Those projects, in turn, resulted in the relocation of three Eugene fire stations and the addition of one new facility, which allowed for the redeployment and enhancement of existing emergency response resources to provide improved coverage throughout the service area.

However, it was assumed, for purposes of the study, that any area in which more than 50 percent of the calls were reached in 4 minutes or less had adequate coverage. Today we have a clearer definition of standards of coverage. As stated in Section Five of this report, our corresponding goal, based on more recent and more detailed analysis, is a travel time of five minutes or less to at least 80 percent of emergency calls in Risk Area A (Eugene city limits plus River Road Water District).

Over the years, Eugene's service area has experienced continued increase in traffic volume and congestion, which slows emergency response, particularly on certain days and at certain times. In addition, a significant number of traffic calming projects have been installed on Eugene streets. These, too, serve to slow all traffic, including emergency responders. This aspect is discussed in greater detail in Section Three.

Most significantly, the number of calls for service has risen dramatically while the total number of personnel and companies has remained relatively static for more than 20 years. In fiscal year 1981 the Metro Departments had 202 paid shift personnel plus volunteers; today, the Metro departments have 314 emergency response personnel. In fiscal year 1981, it took 59 personnel to staff a 24-hour shift; today we do so with 68 firefighting personnel. In that same time period, the number of calls for service in Eugene alone has risen from 2,822 to more than 17,000. Springfield has experienced an overall growth in call volume as well – up 28 percent between 2006 and 2010. The August 2008 addition of Sacred Heart RiverBend Hospital to the Springfield community changed the response and travel patterns significantly in the entire Metro area. These changes are shown in Figure 10.1 and Table 10.1 below.

Springfield City Council's adopted Strategic Plan includes two Fire & Life Safety Department response time measures: percentage of fire calls responded to under 5 minutes within Springfield city limits (goal is 80 percent, current reported baseline is 66 percent); and percentage of medical responses under 8 minutes (goal is 90 percent, current reported baseline is 83 percent). The targets are in alignment with the National Fire Protection Association (NFPA) industry standards, and represent a stretch target for the City. Since the initial baseline was developed, better data analysis methods have been adopted, reflecting a more accurate baseline. Further improvements in data collection systems, expected in fiscal year 2012, will provide a higher level of consistency in data reported.

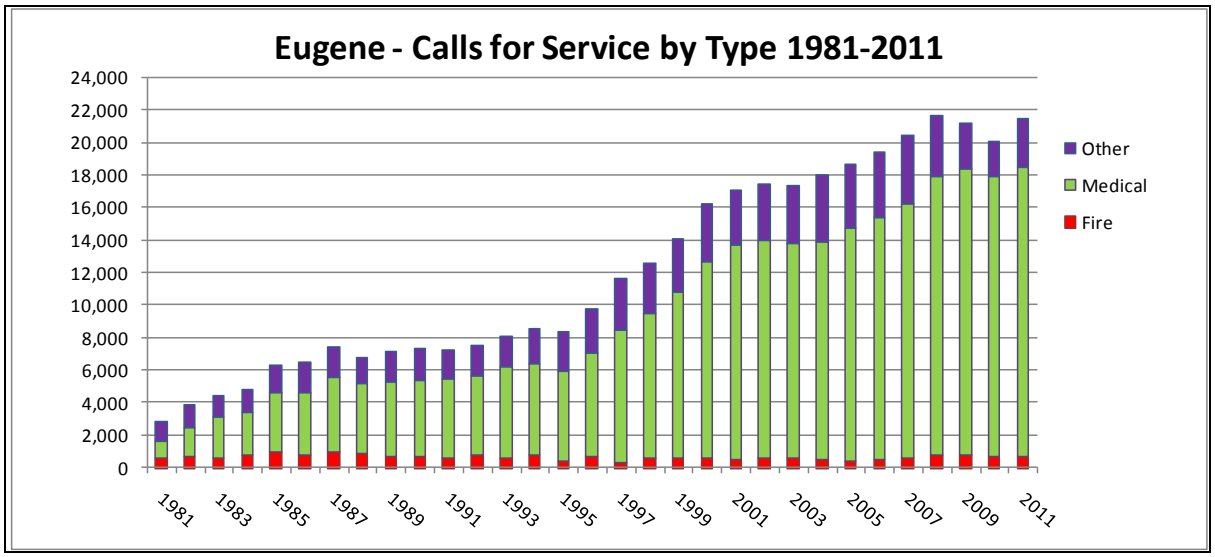
Additionally, Springfield added a fifth fire station in the Gateway area in 1997, in response to increased development and service demands in that area. A Standards of Cover study performed by Emergency Services Consulting, Inc. (ESCI), in April 2007, showed that while Springfield's current fire station locations and coverage areas are adequate for the time being, changes will be required in the near future.

ESCI has recommended the relocation of Fire Station 4 from 1475 Fifth Street to a location closer to downtown Springfield. Ideally, in the downtown core, to better serve the annexed areas of Springfield located across the river in Glenwood. A downtown property location has not yet been identified. Additionally, ESCI recommended the relocation of Fire Station 14 at 4765 Main Street to a location farther southeast to support planned development in the Jasper/Natron area. The City of Springfield purchased property for a future fire station based on this recommendation, located at 725 South 57th Street.

As explained throughout this report, the Metro departments have taken, and will continue to take, every reasonable measure within our resources to maintain an adequate level of service, and, when possible, to improve service. Thanks to the support of elected leaders and voters, fire redeployment projects, addition and relocation of resources, local option tax levies, and effective asset management have allowed our service levels to be substantially maintained. We continually evaluate our deployment, training, procedures, and all other aspects of our service with a view toward maximizing protection and minimizing loss.

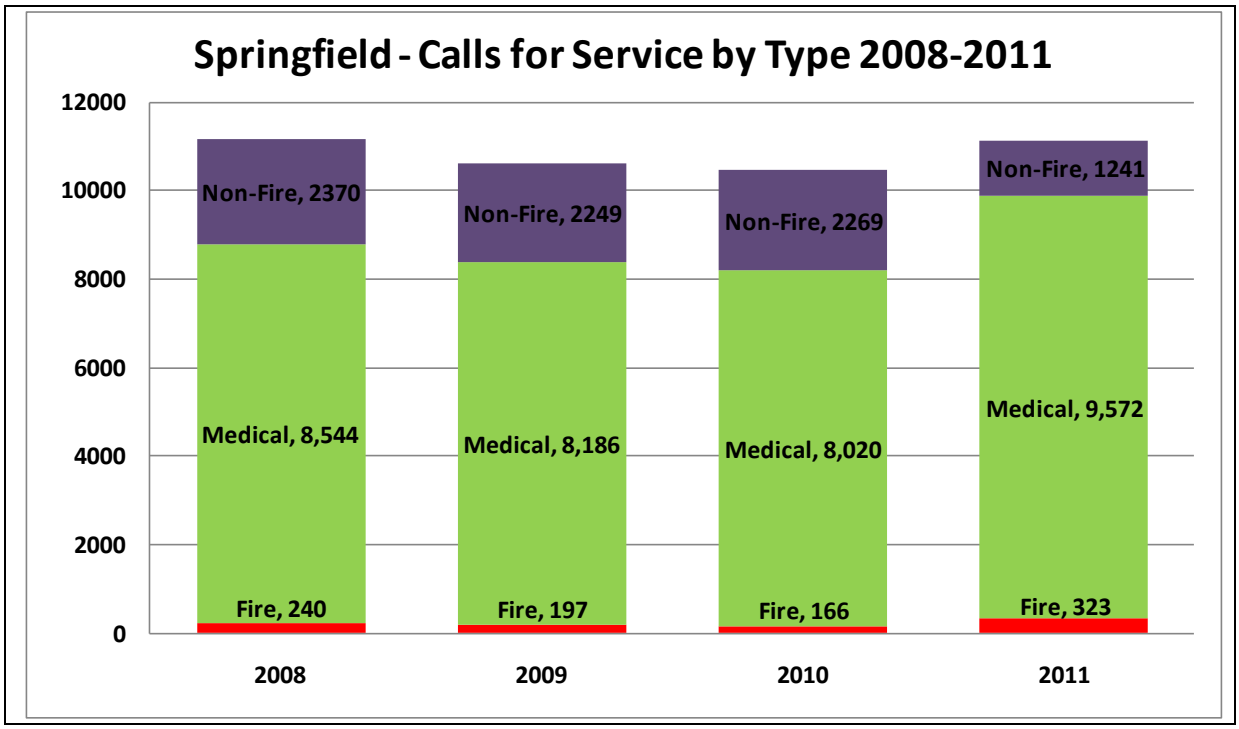
Unfortunately, the issues of community growth, rising call volume, and resource limitations will continue to confront the Metro departments.

Figure 10.1 Eugene - Calls for Service 1981-2011



- A leveling off of medical calls and total calls can be seen beginning in 2002, due to a reduction in the size of Eugene's Ambulance Service Area. The upward trend subsequently continued, with a slight downturn in 2009 probably attributable to the City's new partnership with a private ambulance service provider and possibly also to new regulations requiring disclosure of ambulance fees prior to transport.

Figure 10.1 Springfield - Calls for Service 2008-2011



· Prior to 2008, Springfield tracked total apparatus response versus total incidents, therefore, this figure shows the number of calls for service from 2008 to 2011 only.

Question #2. *For the areas served by Metro departments, are concentrations effective and cost-efficient?*

Concentrations are cost-efficient, in that there are no areas with unnecessarily redundant coverage. However, there are areas where coverage is less effective than it could and should be. These have been identified in this report and include the following three general areas:

1. The South Hills area in Eugene presents some inherent response time challenges with its steep terrain and winding street patterns with limited connectivity. This is a particular concern due to the high fire danger in the wildland/urban interface during the dry summer months.

2. The West Eugene area continues to develop and generate more calls for service. Calls there have longer response times due to the greater distance from the nearest stations into that portion of the city. Our recommendations (Section Twelve) include procurement of property for a new fire station in this area.

3. In the northern part of Eugene, increasing construction and traffic congestion have become a concern in terms of travel time for emergency response.

4. Some western areas of Glenwood are within response time requirements, and service to this area could be improved with the relocation of Fire Station 4 closer to downtown Springfield.

5. As the Jasper-Natron area of southeast Springfield develops, areas farthest out will present response time challenges. When this area is built-out, relocation of a fire station closer to the area will be considered to meet response time objectives.

While these areas present localized challenges, it should be noted that changes in the service area and increases in volume of calls, no matter where they occur, have a systemic effect on the entire response network. That is, as companies are busy in one first-in area, resources are often brought in from another first-in area to cover a wider area. The resulting impact is an overall slower response time performance throughout the service area as resources are spread more thinly.

Question #3. *Have there been significant changes in the risk and demand that might indicate a need to increase or otherwise modify staffing?*

In general we can say that the risk has shifted and demand has increased over the past two decades, while staffing has remained relatively constant. As shown in Figure 10.1 Eugene and Figure 10.1 Springfield above, the risk and demand have changed significantly over the past 29 years. This trend has continued right up to the present time.

The greatest change has been the large increase in the number of EMS calls, while the number of fire calls has remained relatively static. This indicates a need for increased resource deployment for medical responses. Calls for ambulance response into rural areas of ASA #4 have decreased slightly since 2002 due to the introduction of a new Ambulance Service Area (ASA). Eugene has responded by modifying its ambulance staffing patterns to align them with current demand.

The demand of calls defined as “other” has increased as well. This includes all types of calls other than fires and medical responses, and can largely be attributed to the overall increase in the population being served. The Metro departments have absorbed this increase by using existing resources more efficiently.

The increased demand for ambulance services has driven Eugene and Springfield to subcontract with a private provider, Rural Metro Ambulance, for certain categories of non-emergency medical transports. Subcontracting these levels of calls not only improves the overall system capacity, but also allows the mostly-firefighter-staffed medic units to respond to a greater percentage of emergent calls while reducing the demand on those resources for non-emergent transports. As demand continues to increase, further expansion of this tiered-response approach should be expected.

The fire risk has not increased significantly over the past 29 years, but neither has it decreased. This indicates that fire suppression resources, both personnel and apparatus, should not be reduced. While the predominant risk has shifted to EMS, the continuing fire

risk is a compelling reason to maintain the number of on-duty fire suppression personnel. In fact, with the addition of the Santa Clara neighborhood to the Eugene service area, and with the opening of the Sacred Heart at Riverbend Hospital in Springfield, the overall risk of all types has increased.

The measure of firefighters per 1,000 population served is often stated as a reasonable comparison of fire departments and their relative staffing levels. However, the methods used to calculate this ratio can vary considerably, so department-to-department comparisons may not be particularly accurate or useful. In addition, this measure does not consider other important variables such as area served and community risk. What is useful, however, is calculating this ratio for a single community and its fire department over a period of time to show changes in relative staffing strength.

The following tables show the changes in population, total call volume for firefighting companies, and firefighters per thousand population in Eugene between 1981 and 2011, and in Springfield between 1990 and 2011.

Table 10.1
Eugene - Comparison of Staffing, Population, and Calls for Service 1981-2011

Year	Population	Total Calls	Response Personnel	FF & Medics Per 1000 Pop.	Average Shift Strength*	Calls per FF/Medic
1981	106,100	2,822	152	1.4326	45	18.57
2011	168,209	21,539	175	1.0404	46	123.08
% Change	**+ 58.54%**	**+ 663.25%**	**+ 15.13%**	**- 27.38%**	**+ 2.22%**	**+ 562.94%**

· Includes Battalion Chiefs – does not include peak medic unit.

Springfield - Comparison of Staffing, Population, and Calls for Service 1990-2011

Year	Population	Total Calls	Response Personnel	FF & Medics Per 1000 Pop.	Average Shift Strength*	Calls per FF/Medic
1990	44,683	4,600	66	1.4771	14	69.70
2011	66,335	11,136	75	1.1306	24	148.48
% Change	**+48.46%**	**+142.09%**	**+13.64%**	**-23.45%**	**+71.43%**	**+113.04%**

· Includes Battalion Chiefs.

SECTION ELEVEN: Performance Measurement and Quality Assurance

By its very nature, organized response to emergencies is performed in a stressful and inherently unpredictable environment. Critical decisions must often be made quickly, without the benefit of complete information, or a methodical risk-benefit analysis. Given this fact, it is expected that errors will sometimes occur. The Metro departments consistently seek to use performance measures as opportunities to learn how we can improve our service and to adjust our policies and procedures accordingly.

The Metro departments conduct a comprehensive array of performance measurement and quality assurance programs at the individual, work unit, division and department levels. These begin with our recruitment and selection procedures, and expand into all functions of the two organizations. The programs include regular, structured training, evaluation, analysis and special performance reviews conducted in an ongoing manner.

Fire Suppression and Rescue Operations

All current and new emergency response personnel employed by the Metro departments are required to meet and maintain a high standard of professional knowledge and ongoing certification and training.

At the present time, the basic requirements for consideration as a Springfield or Eugene firefighter are: the candidate must have a high school diploma or equivalent; have two years of experience or training in firefighting, emergency medicine, or related fields; must be at least 18 years of age; must not have been convicted of a felony or have a Class A misdemeanor in the last 24 months; must have a valid Oregon driver's license; and must possess certification as a Paramedic through the State of Oregon or the National Registry. In addition, candidates for line positions must successfully complete the Candidate Physical Ability Test, or CPAT.

An individual hired as a firefighter is given 13 weeks of hands-on and classroom training by the Metro departments before being placed in a fire station as a probationary firefighter. The probationary period continues for an additional nine months following completion of the training academy.

To be considered for promotion to Engineer, a firefighter must complete a 12- to 15-month program calling for intense self-study and including four written and practical examinations covering the full range of duties and responsibilities that an Engineer can be expected to handle. The Metro departments Engineer Development Program requires a minimum of 200 hours to complete.

The Officer Development Program, for promotion to Captain, requires sufficient college coursework for an individual to be NFPA certified as a Fire Officer 1. This is a 9- to 12-month course requiring at least 300 hours of study, with at least three accountability points (combined written and field examinations) proctored by the Training Section staff.

To be considered for promotion to District Chief, an individual must achieve Fire Officer 2 certification from NFPA, complete specified course work and projects, and have a minimum of three years of experience as an officer.

In addition to the above, and in addition to the medical training described below, all emergency response personnel are required – by the Oregon Department of Public Safety Standards and Training and as a condition of continued accreditation – to undergo 60 hours of fire suppression training per year, which is audited by DPSST in two-year cycles.

At the present time, for any emergency response position, the Metro departments hire only EMTs certified at the Paramedic level. Paramedic certification requires two years of college (an Associate's degree). To maintain this certification, Paramedics are required to complete 48 hours of continuing education/professional development every two years.

Moreover, response personnel are required to stay current with all existing and new protocols and procedures that may be promulgated by the American Heart Association, Pre-Hospital Trauma Life Support, Pediatric Advanced Life Support, or other agencies, and adopted by the Metro departments' physician adviser.

On an ongoing basis, an integral component of quality assurance is the use of post-incident evaluations. These are focused reviews following all major incidents, and for any incident involving fatalities or a serious injury, a unique operational situation, or a multi-agency response. The focused reviews involve all responding personnel, as well as the leaders from each affected organization. Less serious, routine incidents and events are also sometimes evaluated at the district or company level. Post-incident evaluations consider the following criteria:

1. System strengths or weaknesses
2. Factors driving decisions
3. Standard Operating Procedures
4. Apparatus and equipment effectiveness
5. Education and/or training needs
6. Building construction factors
7. Unusual circumstances
8. Human factors that contributed to the problem

Emergency Medical Services

A Quality Assurance Program has been in place for a number of years for the analysis of the emergency medical services provided by the Metro departments. It is the policy of the Metro departments to regularly participate in activities that lead to the development and maintenance of pre-established levels of high quality patient care and customer service, as well as activities that seek to improve the overall level of care. Key components of the program include:

1. Peer review
2. Chart review
3. Direct observation

4. Physician advisor

Central Lane Communications Center

The quality improvement program for 9-1-1 Center operations currently includes call triage and dispatch for both emergency medical and fire calls for service. Dispatch contracts include performance measures which are reported quarterly. Targeted in-service training addresses performance and state certification requirements.

Emergency Medical Dispatch (EMD)

The 9-1-1 Center uses a software-based triage protocol called the Medical Priority Dispatch System (MPDS). This system was originally developed by Dr. Jeff Clawson of Salt Lake City, Utah, and is now used worldwide. The Metro departments put MPDS in service in 2002, prior to the implementation of the CAD system.

MPDS includes an integrated quality assurance (QA) system and data program. These together allow for the measurement of a broad range of QA issues, such as adherence to specific EMD instructions. This QA package forms the data basis for much of the ongoing in-service training program.

Communications Field Training and Evaluation Program (FTEP)

The Central Lane 9-1-1 Communications Center has used FTEP since 1993. All communications center personnel are overseen by a certified FTEP coach as part of their phased training for four different positions within the operation. All personnel are required to reach and maintain a minimum acceptable rating for a 40-hour period before a written exam for ‘solo status’ is administered. During FTEP training, trainers rate the trainees’ work performance against a published set of standards. Daily Observation Reports are completed, as well as “weeklies,” and an End-of-Phase Report is completed by the responsible shift supervisor. At the end of “phase” training, the trainee takes a test and is required to attain a passing score of 70%.

Department of Public Safety Standards and Training (DPSST)

DPSST is mandated by the Office of Emergency Management (OEM) to set standards for all call takers, the entry level position in the 9-1-1 Center. Prior to beginning work in the center, they attend a Basic Telecommunications Academy (BTA). The BTA requires 80 hours of classroom instruction. This is followed by a 40-hour DPSST-required EMD class with EMD certified instructors. At the conclusion, trainees are required to pass a test with a minimum score of 75%.

In addition to the BTA/EMD academy, newly hired personnel complete an agency-specific Advanced Telecommunicators’ Academy (ATA) for an additional 160-200 hours. This training is geared to provide essential job knowledge that will be required once they move to the center for formal training. At the conclusion of the ATA, trainees are again administered a test and must attain a 70% passing score. Once in the center, personnel begin the FTEP training. The state has

continuing education requirements for recertification, which are met through classes, online and briefing training.

Fire Dispatch Contracts - Performance Standards

Beginning in 1998, the Lane Fire Defense Board requested the adoption of a set of standards for all 9-1-1 Center personnel relating to fire and EMS dispatching services. These standards were formally adopted on March 15, 2000. Performance measures reported quarterly to the fire dispatch users include:

1. Call answer to call entry time: The time the phone is answered to the time when the call is entered into CAD.

2. Receive to dispatch time: The time when a call is entered into CAD, to the time the call is toned out for dispatch.

3. Accuracy in providing EMD: How often call takers precisely follow EMD instructions when on the phone with a caller.

4. Accuracy in dispatching protocol: How often dispatchers follow exact policy or procedure.

SECTION TWELVE: Future Needs, Recommendations, and Service Improvement

As the Metro departments seek to provide consistently high quality public safety services in the future, we must successfully meet the many challenges presented by a growing community with high expectations and shifting demographics. While the cities net General Fund budgets are marginally keeping pace with costs, the ambulance transport funds, supported primarily through user fees and enterprising programs, are inadequate to sustain the service in the long-term. In addition, chronic underfunding of federal and state social service systems has led to an increased non-traditional call load. As the agency of last resort, finite fire and ambulance resources are more frequently responding to help community members with problems that may or may not be medical in nature.

A clear trend can be seen where service obligations are quickly outstripping the available resource base. This is especially true for the ambulance transport system. Although there are a number of contributing factors to the current financial situation, the deficit is primarily attributable to the reduced levels of reimbursement the cities receive from Medicare (federal) and Medicaid (state) for qualifying patient transports. These decreases have been phased in by the federal government since the passage of the Balanced Budget Act of 1997, which shifted much of the financial burden for covered patient transports from the federal government to local providers. The problem was then exacerbated with the Medicare Modernization Act of 2003, which further reduced reimbursements. These changes are the primary contributing factors to the system's current financial dilemma.

To place this situation in perspective it is important to understand that Medicare and Medicaid transports, along with Medicare HMO-covered transports, account for about 69 percent of the Metro system's current business, and that money is lost on each and every covered transport performed. In fact, the federal government and HMO capitated payments pay only about half of the standard fee for service, and federal law does not allow the cities to bill patients beyond what is allowable under Medicare and Medicaid.

The Metro departments also provide transport service to patients who are either uninsured or underinsured, and unable to privately pay for their transport costs. These calls create a level of bad debt, which frequently requires the cities to initiate collection efforts. Uncollectible debt impacts our ability to cover the overhead costs of our system.

The move of Sacred Heart Hospital from the west University area to the Riverbend campus in northeast Springfield has further eroded the capacity of Eugene-based ambulances by adding travel time to each patient transport in both patient delivery and return to area, while improving travel time for Springfield-base ambulances.

A special Joint Elected Officials Task Force met throughout 2009 to study the financial shortfall and develop possible solutions. That group's recommendations have now been forwarded to elected officials governing the cities of Eugene and Springfield, neighboring Lane Rural Fire/Rescue District, and Lane County. Until some fundamental change in the service's financial support structure is enacted, it is becoming apparent that the three local provider jurisdictions

will be required to allocate some level of General Fund resources, which would be a departure from past policy requiring the service to be self-supporting. A plan to reconvene the Task Force in fiscal year 2012 has been made to continue the work with policy makers to make changes to the system, or its financing structure, to move the system towards sustainability.

Continuing annexation activity, required for new development, is extending the "A" risk area in the northern and western portions of Eugene and the northern and eastern portions of Springfield, which also increases the service demands on the Metro departments. This situation is already evident in north/central Eugene, where the Eugene Fire & EMS Department was required to reassign a fire crew to Santa Clara in order to provide coverage to a larger geographic area and population base. Additionally, multi-story building development in the northeast portion of Eugene and northwest portion of Springfield suggests the need for the addition of a ladder truck, as noted during the last ten-year Insurance Services Office (ISO) evaluation of our system. Efforts are still underway to improve both departments' ISO rating.

Overall, ongoing community growth is placing new burdens on established Urban Growth Boundaries. As a result, there is less land available for development and the cities are beginning to experience increasing density of development and infill. This often necessitates high-rise and medium-rise construction, which creates unique stresses on fire and EMS agencies, as it takes additional time and resources to marshal sufficient firefighting and emergency medical forces on the upper floors of taller structures. Eugene is currently involved in a process call Envision Eugene to determine land use needs for the next 20 years.

In turn, urban development brings with it a corresponding increase in traffic congestion. More vehicles share an aging and failing street network. The proliferation of enhanced traffic control systems/techniques, the construction of narrower streets, and the addition of traffic calming devices all serve to reduce the overall response and reliability capabilities of emergency response resources. This means that it will take longer for outlying fire and EMS crews to respond back into the core of the cities. Consequently, downtown and inner-city crews must have an enhanced ability to provide hazard mitigation, reducing their dependence on additional resources from the cities peripheries.

Increased training mandates imposed by State DPSST, Health Division and OSHA, along with more demanding national standards, are also impacting response by requiring response agencies to pull in-service companies and units out of position in order to fulfill these obligations.

At the same time, the 3-Battalion System enhances both communities' level of service through full automatic aid and an integrated response and numbering system that is supported through common operating procedures, terminology and training.

All these trends and environmental influences have been reviewed and evaluated by the Metro departments as an integral part of this analysis. In response, the following series of key objectives and strategic recommendations have been developed to effectively address the issues identified.

Objective 1

Work to stabilize and secure the funding sources needed to support the continuous provision of ambulance services throughout ASA #4 and ASA #5 and increase the capacity of the system to meet the growing call volume.

The funding structure for the current system is inadequate and unsustainable. In addition, the resource base (number of units) deployed on the street is insufficient to meet the call demand of our community. The current County-designated ASA s cover a geographical area of 434 square miles and a population base of 191,318 for Eugene (ASA #4), and a geographical area of 1,514 square miles and a population base of 88,674 for Springfield (ASA #5). The combined area and population of the ASAs are served by 6 to 7 ambulances depending on need and time of day. This number is insufficient, resulting in the Metro departments frequently needing to rely on enhanced automatic aid to cover call volume, which generally causes a delay in delivering the service. In addition, it places a heavy workload on personnel assigned to ambulance duty.

Recommendations:

1. **Stabilize ambulance transport funding**. Primarily because of the reductions in Medicare and Medicaid reimbursements, the current fee-for-service funding structure no longer supports the system.

2. **Increase the capacity of the system to meet call demand**. Simply stated, more resources (units) are needed on the street to meet the burgeoning call load and ensure that resources are available to respond to medical emergencies when they happen. Eugene and Springfield's contract with a private provider for non-emergent BLS interfacility transport is helping to partially address this recommendation.

3. **Continue to analyze the system and make adjustments as needed**. All options need to be considered including the development of a tiered transport system that provides different levels of service. Currently, each call receives an expensive and sophisticated advanced life support unit with paramedics. Not all calls need this level of service. In addition, alternative service delivery models need to be considered for part or all of the service delivery, including a Mobile Health Care System, which provides a level of care, evaluation and treatment outside of the ambulance transport system. The full elected bodies in our region are now considering recommendations from a 2009 joint elected officials' study of ambulance funding issues. Options for consideration include ongoing General Fund support, public/private partnerships, other elements of privatization, ASA boundary reconfiguration, and formation of a new type of taxing and/or service delivery entity. A plan to reconvene the joint elected officials Task Force is scheduled for fiscal year 2012.

4. **Seek a legislative remedy to the federal CMS issue**. The reimbursement reduction schedule implemented a few years ago by the federal Centers for Medicare & Medicaid Services (CMS) has placed a significant financial burden on many health care providers in the country. The cities are working with other public and private

providers to lobby the federal government to revise the reimbursement schedule to more accurately reflect true service costs by region.

5. **Reduce service costs**. The Metro departments continue to look for sustainable methods that can be employed to systematically lower the unit costs of providing ambulance transport services. To this end, we are evaluating different equipment, technology, and partnership opportunities. In order to take advantage of these, it may be necessary for the cities to assist the departments in procuring and developing them to optimize their payback potential.

Objective 2

Effectively address economic and demographic trends to ensure that an adequate level of emergency response capacity is maintained (and augmented as necessary), and to ensure that the Metro departments continue to meet expected response time standards for the community.

Recommendations:

1. **Take steps to reverse the long-term erosion in the number of firefighters per 1,000 population.** Because the population is expected to continue to rise, this will mean developing additional resources to put more firefighters on the street. At the same time, we recognize that budgetary shortfalls in the two cities make this recommendation difficult to achieve.

2. **Continue to meet NFPA 1710 standards for providing an effective response force on an emergency scene within acceptable and realistic time frames.**

3. **Continue to project, analyze, and address future demands** that will be placed on the organizations by continued growth, greater density, increased call volume, shifting demographics, and other risks in the future.

4. **Address fifth Springfield fire station funding.** Move the fifth Springfield fire station from the serial levy to more stable funding support. Again, budgetary shortfalls make this recommendation difficult to achieve.

Objective 3

Plan for future development of the infrastructure necessary to support fire, life safety and emergency medical service provisions in the underserved portions of the Eugene-Springfield metro area.

Recommendations:

1. **Analyze growth and development on a metropolitan level**, and respond by planning for station locations that will optimize response capability. Carry plans

forward to construction in a timely fashion to ensure that developing areas receive adequate service.

Objective 4

Work with other regional partners to identify and implement ways of providing better and more cost-effective services to the metro area.

Recommendations:

1. **Study and, if feasible, implement additional metro-wide approaches to delivery of non-fire suppression services.** Services and functions that may be, or are already being considered for such an approach include fire prevention, training and logistics.

2. **Continue work with Lane Rural Fire/Rescue to assess a possible urban/rural split for ASA #4, Zone #3.** Implement six month trial period, under an intergovernmental agreement (IGA), for Lane Rural to assume ambulance transport responsibility for a portion of Zone #3. This would allow Eugene Fire & EMS to focus more on the metro area and reduce the need to add additional expensive firefighter/paramedic ambulances into the system.

Service Improvement Goals

Using the information compiled for this document, this section is intended to provide information related to the specific goals that have been developed as a part of the annual evaluation of Metro Standards of Coverage Deployment Plan.

We recognize the NFPA 1710 deployment standard with specific response times, staffing and emergency scene deployment configurations for operating in any environment that is immediately dangerous to life and health (IDLH). We will continue to measure our performance against these response time goals, as well as our own localized adopted response time goals. However, the level of staffing of fire and other emergency apparatus remains a local decision in order to allow jurisdictions appropriate flexibility to deal with their environment, as long as legal mandates and safety concerns are met. It is the responsibility of the authority having jurisdiction to assess the risk in the service community and to provide the needed resources to control that risk safely and effectively.

Our goals for fiscal year 2011 and fiscal year 2012 are as follows:

- Improve or maintain overall first-in response times in both risk areas – “A” and “B.”
- Improve or maintain structure fire response in both risk areas – “A” and “B.”
- Improve or maintain ambulance response times in all four ambulance response zones – 1, 2,3, and 4.

To achieve these goals, we will take the following actions:

- Work to identify and develop a sustainable ambulance transport funding structure.
- Work to increase the capacity of the ambulance transport system so that it adequately matches call volume and workload.
- Evaluate the development of a tiered ambulance transport system that matches technical capability, personnel skill level and cost with the type of call for service.
- Continue to deploy ambulances according to area and temporal demand, modifying schedules and assignments as necessary.
- Continue to move up companies to fill in at other stations when “home” companies are responding to calls or engaged in non-emergency activity out of quarters.
- Monitor the 3-Battalion System to ensure the integrated response system continues to perform as intended.
- Develop and implement other deployment strategies while pursuing additional resources to improve response time performance.
- Continue to utilize mutual aid, move-up, and standby when appropriate to maintain coverage during large emergencies.
- Seek grant funding to purchase and maintain a heavy rescue vehicle for use in large-scale and/or mass casualty incidents.