



EAST COUNTY FIRE & RESCUE STANDARD OF COVER

A comprehensive examination of East County Fire & Rescue's past, present and future

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	pg 3
SECTION 1: INTRODUCTION.....	pg 5
SECTION 2: COMMUNITY BASELINES.....	pg 8
SECTION 3: MISSION, GOALS, AND OBJECTIVES.....	pg 12
SECTION 4: RISK ASSESSMENT.....	pg 14
SECTION 5: ON-SCENE OPERATIONS.....	pg 23
SECTION 6: SERVICE LEVEL OBJECTIVES.....	pg 30
SECTION 7: DISTRIBUTION OF RESOURCES.....	pg 34
SECTION 8: CONCENTRATION ON RESOURCES.....	pg 38
SECTION 9: HISTORICAL DATA.....	pg 42
SECTION 10: THE FUTURE.....	pg 47
APPENDIX A: NFPA 4.1.23 Alarm Handling	

East County Fire & Rescue Standard of Cover 2016

EXECUTIVE SUMMARY

About this Document

This document identifies East County Fire & Rescue's Standard of Cover, which encompasses the unincorporated areas of Vancouver, Camas, and Washougal. The following areas were analyzed in order to come to the recommendations mentioned later in this document: resources used in response, operations, and risks involved in each community.

Since the merger of Clark County Fire Protection Districts 1 and 9 in 2006, this is the first Standard of Cover completed. This document will utilize the template from the Commission on Fire Accreditation, International and definitions and terms from NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments 2010 Edition.

East County Fire & Rescue

East County Fire & Rescue was legally formed in January 2006 as the result of a merger between Clark County Fire Protection Districts 1 and 9. These districts were originally authorized and created per Washington State statute (RCW 52.02.020). The District is currently governed under the policy-making direction of a five-member board of fire commissioners. Commissioners are elected every two years to serve six-year terms (RCW 52.14.060). The Board employs the services of a fire chief who is responsible for administering all District business.

The organizational structure consists of a paramilitary ranking system inclusive of 1 paid fire chief, 1 assistant fire chief, 3 career Captains, 9 career firefighters, 6+/- part-time firefighters, and 20 +/- volunteer firefighters. Additionally, the District employs 2 support office staff and has 8+/- Emergency Support volunteers. Currently, the total population served by the District is approximately 10,000 citizens.

East County Fire & Rescue is regularly assessed by the Washington Surveying and Ratings Bureau (WSRB). WSRB evaluates all Washington communities for their fire protection/suppression capability using a schedule approved by the Washington State Office of the Insurance Commissioner. WSRB assigns each community a Protection Class of 1 through 10, where 1 indicates exemplary fire protection capabilities, and 10 indicates the capabilities, if any, are insufficient for insurance credit.

<http://www.wsrb.com/wsrbweb/deptdocs/pdfs/protectionclassevaluationoverview.pdf>

The Protection Class evaluation process recognizes the efforts of communities to provide fire-protection services for citizens and property owners. Insurance companies use Protection Classes to help establish fair premiums for fire insurance — generally offering lower premiums in communities with better protection. By offering economic benefits for communities that invest in their firefighting services, the evaluation provides a real incentive for improving and maintaining fire protection. By classifying communities' ability to suppress fires, WSRB also helps the communities evaluate their fire-protection

East County Fire & Rescue Standard of Cover 2016

services. Currently, East County Fire & Rescue is a Class 8 with Tender Credit. The benefits of these ratings are passed down to residents by having low insurance premiums and quality emergency services.

Distribution of Resources

East County Fire & Rescue has six strategically placed fire stations throughout its 60 square miles of service coverage. Currently, East County Fire & Rescue staffs Stations 91 & 94 with paid personal 24 hours a day, 7 days a week, 365 days a year.

SECTION 1: INTRODUCTION



East County Fire & Rescue Standard of Cover 2016

SECTION ONE: INTRODUCTION

Purpose

This document will serve as the District's Standard of Cover. The District recognizes that a Standard of Cover is made up of written documented procedures that determine the distribution and concentration of the fixed and mobile resources of a fire and EMS organization.

The purpose of this Standard of Cover is to address several key points:

- A baseline tool for defining emergency response performance standards.
- An examination of the risk assessment and historical performance throughout the community.
- A descriptive tool for validating station location.
- A management tool for determining apparatus types, staffing levels, and staffing patterns.
- A predictive tool for helping to determine workload and ideal unit utilization.
- A basis for continually measuring performance improvements over time.
- Policy guidance when dealing with resource procurement and allocation as the District plans for the next 1-5 year period.

Standards of Response Coverage typically consist of three key elements:

- Distribution - the station and resource locations needed to ensure rapid response deployment and to minimize and mitigate emergencies.
- Concentration - the spacing of multiple resources configured to provide an initial "effective response force" within sufficient time frames to mobilize and control the escalation of an emergency consistent with specific risk categories.
- Staffing Levels - the number of personnel available to respond to emergency incidents.

This document is divided into ten sections. Descriptions of the topics, current practices, facts, and proposed changes may be presented in each section. This Standard of Cover was developed by first considering applicable national, state, and local standards of cover. Second, the District's present practices and historical response data were reviewed and formatted for evaluation. Lastly, the results of these analyses were then used to make formal statements about the level of service that the District could be expected to deliver.

The department has and will continue to utilize performance data, as outlined in this document, to address staffing levels, deployment options, appropriate emergency response levels, location and number of current and future fire facilities in response to the needs of the community.

East County Fire & Rescue Standard of Cover 2016

Maintenance of the Standard

The Standard of Cover will go through an annual analysis to ensure all data is accurate and in a presentable form. The department will utilize this document to update its Strategic Plan and when applying for state and federal grants

SECTION TWO: COMMUNITY BASELINES



East County Fire & Rescue Standard of Cover 2016

SECTION TWO: COMMUNITY BASELINES

Overview and Legal Jurisdiction

East County Fire & Rescue, is located in the southeast corner of Clark County in Southwest Washington, is bordered to the west by the city of Vancouver, to the south by the cities of Camas and Washougal and to the east by Skamania County.

The District itself is comprised of two former departments. Prior to the merger, the east side of the Washougal River was serviced by Clark County Fire District #1 and the west side of the Washougal River was serviced by Clark County Fire District #9.

A functional consolidation was implemented in 2003 and a full merger was entered into in 2006.

The District is currently governed under the policy-making direction of a five-member Board of Fire Commissioners. Commissioners are elected every two years to serve six year terms (RCW 52.14.060).

The Board employs the services of a fire chief who is responsible for administering all District business. The fire chief also serves as the District's secretary and reports directly to the Board at bi-weekly commissioner meetings.

Currently, East County Fire & Rescue provides emergency medical services, fire suppression, hazardous materials response at the operational level, and water rescue at the awareness level to the citizens of the District.

COMMUNITIES SERVED

East County Fire & Rescue services the unincorporated areas of Vancouver, Camas, and Washougal.

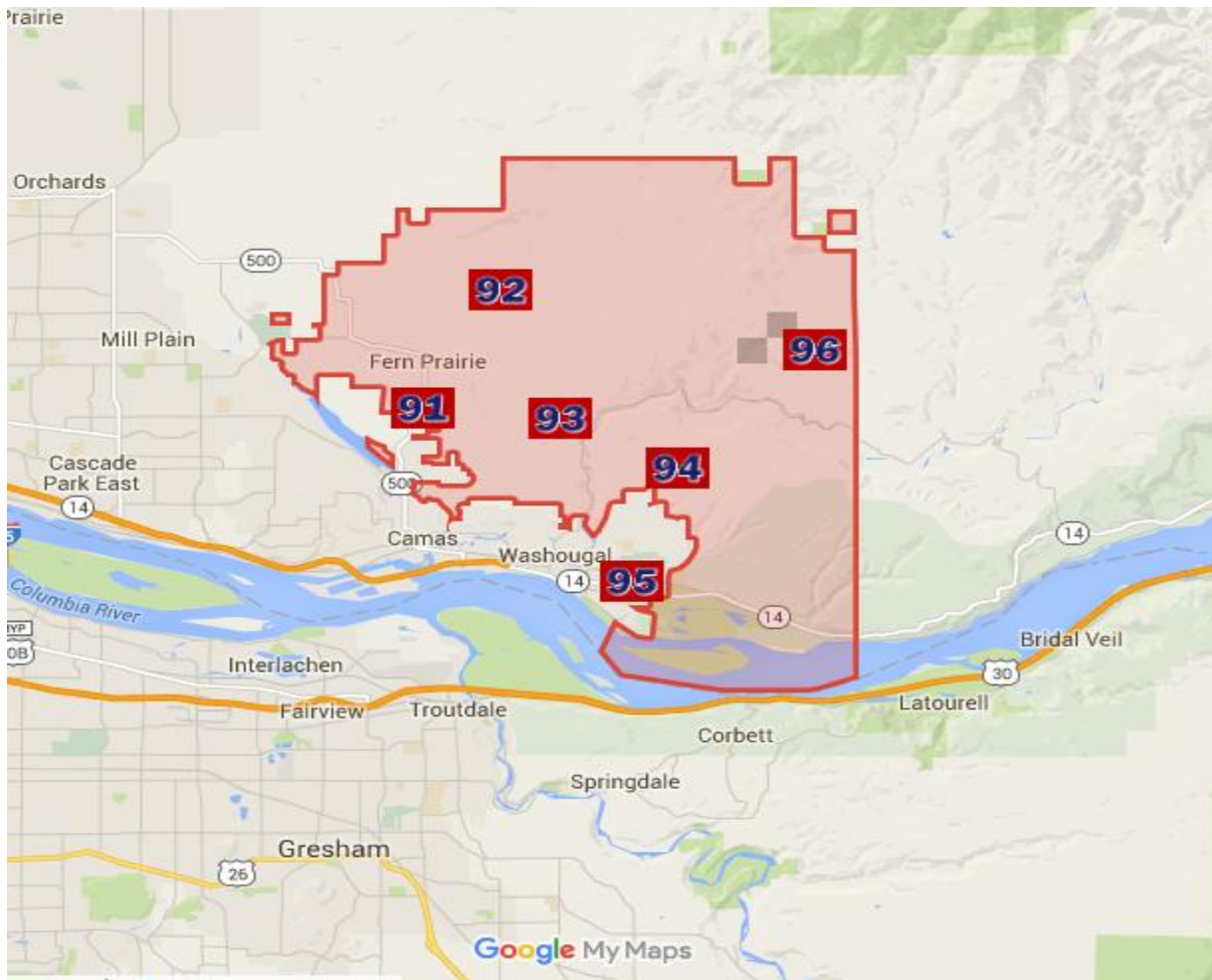
DEPARTMENT RESOURCES

East County Fire & Rescue has a total of six fire stations. Of these six, two are staffed 24 hours per day with a minimum of one paid career personnel. Additional staffing is a combination of paid career, paid part-time, and volunteers. One station is staffed by a first responder resident who responds when at home. The additional three stations are not staffed and serve as housing for additional equipment, such as tenders, brush rigs, air rigs, which can be taken by on-duty staff or volunteers when needed.

East County Fire & Rescue Standard of Cover 2016

Photos of stations

ECFR Fire Stations



East County Fire & Rescue Standard of Cover 2016

Station 91



Station 92



Station 93



Station 94



Station 95



Station 96



SECTION 3: MISSION, GOALS, AND OBJECTIVES



East County Fire & Rescue Standard of Cover 2016

SECTION THREE: MISSION, GOALS AND OBJECTIVES

MISSION STATEMENT

We provide quality and timely EMS and Fire Response. We serve our community by reducing risk, mitigating hazards, and effectively responding to requests for assistance. We are public servants protecting the quality of life for all in the district through professional fire and emergency response, prevention, and education. We serve with integrity and trustworthy behavior, being mindful of efficiency and cost, both now and in the future.

VALUES

- Provide a safe and positive environment for Fire District personnel and the community we protect and serve.
- Strive for excellence and deliver professional performance to both internal and external users of our service.
- Respect the diversity of our community- and the members of our own Fire Service family while working together to achieve Agency goals and objectives.
- Be open, honest, and ethical in all our actions, activities, and communications.
- Promote the health and wellness of our organization and our members
- Maintain a long-term planning horizon and employ practices that improve safety, service, efficiency, and effectiveness.
- Be fiscally responsible with the resources provided.

SECTION 4: RISK ASSESSMENT



East County Fire & Rescue Standard of Cover 2016

SECTION FOUR: RISK ASSESSMENT

East County Fire & Rescue is as an all-risk response agency meaning, that to the best of its ability, it will respond to any emergency-related situation (fires, medical emergencies, hazardous materials incidents, water rescue, natural and manmade disasters, etc.). All hazard risk assessment traditionally consists of an analysis of six key elements: fire flow, probability, consequence, occupancy risk, demand zones, and community profile.

In addition to the traditional elements, establishment of response performance standards must include consideration of the topography and the transportation network over which emergency responders must travel in order to meet the demands for service, the nature of emergency response activity, and patterns of future property development and population growth.

ELEMENTS DEFINED

Fire Flow - The amount of water required to control a fire, based on building structure and contents. This is determined by using a common fire service calculation.

Probability - An estimate of the likelihood that a particular event will occur within a given period of time. For instance, an event that occurs daily is highly probable. An event that occurs once in a century, such as a volcanic eruption, is very unlikely.

Consequence - The risk to human life (including fire, medical and other events), economic impact of an event (loss of property, income or irreplaceable assets), and environmental impacts (the risk of long-term damage to the environment).

Occupancy Risk - An assessment of the relative risk to life and property resulting from a fire, inherent in a specific occupancy or in a generic occupancy class.

Demand Zones - Areas utilized to analyze risk situations. In order for the District to develop meaningful demand zones, four types of boundaries were considered: (a) urban growth, (b) station areas, (c) neighboring fire jurisdictions, and (d) cities.

Map Pages (MPs) - Square mile zones corresponding to the geographic range-township section grid, which are named using a 4-digit system based on a datum selected by the fire service. MPs are further divided when topography, natural barriers, response routes, or resource locations indicate the need. MPs are used for emergency response navigation purposes, computer aided dispatching of the closest available unit, response functions, assignment of non-response functions, and other administrative purposes.

Station Areas (SAs) - Irregularly shaped zones utilized to provide the base for dispatching determinations. SAs are developed based on neighborhood configurations, traffic flow patterns and speed zones, topography, elevation, proximity to the closest fire station, and a variety of other considerations. Station areas are also utilized for area management for such projects as hydrant maintenance and pre-fire planning.

East County Fire & Rescue Standard of Cover 2016

Response Zones (RZs) - Zones defined by analysis of the physical ability of apparatus to travel a specified distance within predetermined time frames. Similar to SAs, RZs are affected by neighborhood configurations, traffic flow patterns, topography, elevation, proximity to the closest fire station, and a variety of other factors.

Community Profile – An analysis of the attributes of the community based on the unique mixture of demographics, socioeconomic factors, occupancy risk, demand zones, and levels of service currently provided.

RISK ASSESSMENT COMPONENTS

Topography - ECF&R is comprised of diverse topographic features. Elevations range from a low of 150' to a high of 1,500'. Static water is found in numerous manmade lakes and ponds throughout the District. The Washougal River runs through the middle of the district. These watercourses experience a cycle of flooding every few years. Water over roadways impedes traffic flow, to include emergency response routes, and some structures suffer from water damage.

Water rescue at the awareness level is provided by East County Fire & Rescue.

Transportation Networks - The District has 3 miles of rail line and 8 miles of major state route highway running through its borders. These transportation routes funnel traffic through the center of the entire County. In addition to passenger traffic, vehicles containing regular consumer goods and various hazardous materials traverse the state routes continually

Major thoroughfares, with little or no shoulders and often with deep ditches, are typically traveled at speeds of at least 50 mph. High impact collisions continue to be one of the District's most common call types, often requiring the use of heavy extrication tools to rescue victims.

Private roads, in various states of repair, are prevalent everywhere. It is common for these roads to be in less than ideal condition, narrow and obstructed, with low hanging vegetation. Some of the roads are not properly signed which only exacerbates the problem of distinguishing between a driveway and a roadway. Amongst these private roads are private bridges which are not properly labeled with weight restrictions. Additionally, some homes do not have their house addresses clearly posted, which may delay response.

The District lies directly below the flight path of the Portland International Airport and is home to several private landing strips. Additionally, the Camas/Washougal Airport (Grove Field) is located adjacent to Station 91. Light plane incidents have occur on a regular basis.

East County Fire & Rescue Standard of Cover 2016

Major Pipelines – The District has approximately 12 miles of natural gas pipelines running through its borders. The main line practically divides the district in half, with a second line feeding into it around the area of NE 292nd Avenue. The pipes range from a diameter of four inches to 36 inches. Pressures vary, from a residential service line pressure of approximately five PSI to a transmission pipeline pressure of 1200 PSI. Given the history of natural gas pipeline explosions around the nation, including several in Washington State, the District conducts refresher training in conjunction with Williams Pipeline to ensure District employees are familiar with proper procedures should there be an emergency. Pipelines throughout the district may also be used to transport other materials depending on the needs of the customers.

Development and Population Growth - Despite the economic downturn and extraordinary loss in revenue, the District has begun to experience steady new construction growth, in and around the district. This growth is expected to continue. See Section Ten for further detail.

Emergency Responses (Calls/Alarms/Incidents)

During the calendar year 2014, ECF&R responded to a total of 843 incidents, divided into several distinct call types (see Figure 4a). This distribution illustrates one of several challenges faced in providing service within the District. Unlike a pure fire suppression agency, whose demand for service is primarily driven by the characteristics of fixed real property (land and buildings), demand within ECF&R is primarily driven by people. People are highly mobile thus affecting the demand for service in a particular area, time of day, and day of year. Although some call types indicate a low number of responses, for example drowning, this does not negate the District's obligation to provide the personnel, training, and equipment required to mitigate a situation like water rescue.

East County Fire & Rescue Standard of Cover 2016

East County Fire & Rescue

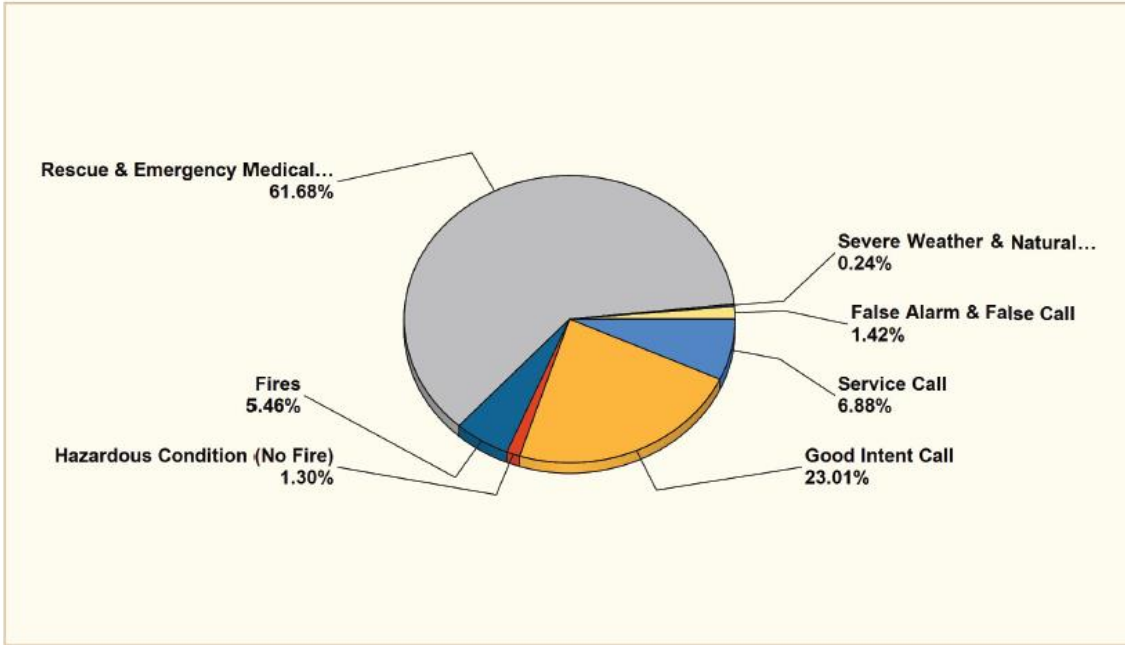
Camas, WA

This report was generated on 12/6/2015 3:44:00 PM



Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 01/01/2014 | End Date: 12/31/2014



MAJOR INCIDENT TYPE	# INCIDENTS	% of TOTAL
Fires	46	5.46%
Rescue & Emergency Medical Service	520	61.68%
Hazardous Condition (No Fire)	11	1.30%
Service Call	58	6.88%
Good Intent Call	194	23.01%
False Alarm & False Call	12	1.42%
Severe Weather & Natural Disaster	2	0.24%
TOTAL	843	100.00%

East County Fire & Rescue Standard of Cover 2016

Risk Categories

Fire service organizations classify risks according to methodologies that best suit their particular situation. The most common approach is to classify risks by population density and land use: (a) urban, (b) suburban, (c) rural, and (d) wilderness or frontier. These designations are also utilized in the county's EMS Ordinance and ambulance contract.

They are:

1. Urban – Urban areas lie within urban growth boundaries established by the county. Population density is 2000 persons per square mile and above. Historically, these areas have been annexed by an adjoining city prior to developing the land with commercial ventures and/or high-density housing. For planning purposes, the city of Battle Ground is treated as an urban area.
2. Suburban – Suburban areas have a population density of 1000 to 1999 persons per square mile. Currently, the District has approximately 16 square miles within its borders that are considered suburban in nature. These areas are primarily those lying within the cities of Ridgefield, La Center, Woodland, and those areas adjacent to the city of Battle Ground.
3. Rural – Rural areas have 1 to 999 persons per square mile, and this accounts for the vast majority of the District's make up. These areas contain agricultural land and related structures, forested land, and single-family dwellings on 1.5 to 20 acre parcels. These areas also contain rural centers and may have any combination of small businesses, schools, and churches.
4. Wilderness – Wilderness areas have no persons living per square mile. The District has no wilderness areas.

All areas of risk can be further divided with consideration given to whether the area has any hydrants. An area with hydrants positively affects the District's ability to produce required fire flow. Currently, most new construction is done in hydranted areas and is covered appropriately. In areas that are non-hydranted, the District works closely with the water utilities to ensure water lines are run as close as possible to the area to cut down on turnaround time for water tenders. Without hydrants, the District relies on 2,500 gallon water tenders to supplement tank water carried on fire engines. Staffing for these water tenders is dependent on key factors such as time of day (volunteer availability) and the day-to-day staffing of first out apparatus (enough for one firefighter to jump off an engine and respond the tender to the incident).

ECF&R considers risk by utilizing a combination approach that takes into consideration past events and related responses. This combination approach has developed a relative rating of risk for six key areas:

Single Family Dwellings - The greatest risk to a citizen in the District is to be subject to some type of illness-related medical emergency or a traumatic fall in the home. Risk is high; occurrence is high.

East County Fire & Rescue Standard of Cover 2016

Roads - The second most commonly occurring risk is to be involved in a motor vehicle collision. Collisions are frequently high impact, resulting in severe injuries or death and significant property damage. Risk is high; occurrence is high.

Structure Fires –

The risk of fire in a structure, especially in a single-family dwelling, is relatively high in the District. Not only will property be damaged, but injuries or death may result as well. Overall risk in other categories such as commercial is moderate; occurrence is low. Approximately 10 structure fires occur each year. Structures common to the District include schools, churches, small businesses, single-family homes, multi-family homes, some commercial structures, and small residential care facilities.

Wildland Interface –

Due to topography, the District is rated as one of the top areas in the State for the potential of experiencing wildland or urban-interface fires. Homes in several station areas are affected, to some degree, by this risk. Consequences could be catastrophic. The risk for fire is high; however, the occurrence is low.

Flooding-

The abundance of surface water and existing floodplains present a risk for flooding. The challenge with flooding is that so many people and properties are affected at one time that it severely taxes the ability of emergency responding personnel to intervene on such a large scale. The risk is low; the occurrence is low (approximately every five years).

Earthquakes and Volcanic Eruption - The region has a long history of minor earthquakes and eruptions. The potential for devastation exists; however, the District has been only minimally impacted over the years. Risk is low; the occurrence is rare.

PROBABILITY

Frequency-

When analyzing numbers from 2011 to 2014, the number of responses within the District has steadily risen.

In addition to the number of calls experienced across the entire District, it is necessary to evaluate the distribution of those alarms. Call volume, type, location, and frequency assist in determining the priority order for the distribution of resources. As seen in Figure 4c, not all station areas receive the same volume of emergency responses.

East County Fire & Rescue Standard of Cover 2016

East County Fire & Rescue

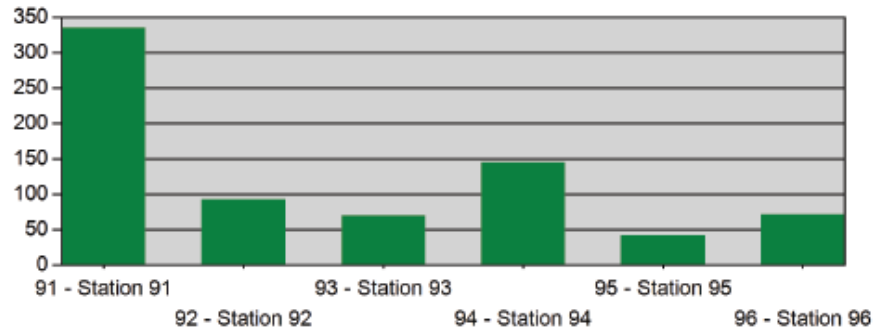
Camas, WA

This report was generated on 12/6/2015 3:58:50 PM



Incidents per Station for Date Time Range for Station

StartTime: 00:00 | EndTime: 23:00 | Incident Type(s): All Incident Types | Station: All Stations | Start Date: 01/01/2015 | End Date: 12/31/2015



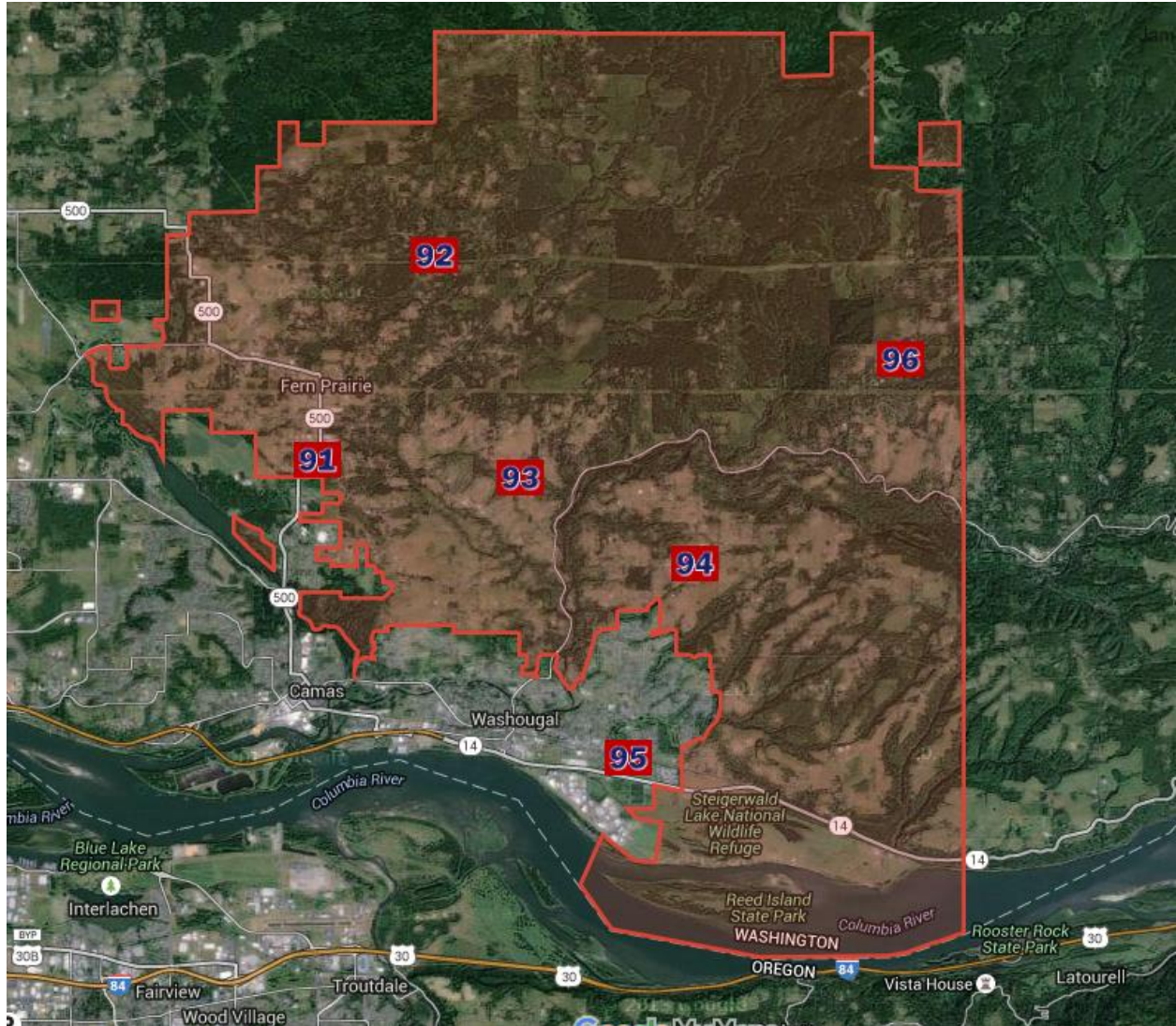
STATION	COUNT
91 - Station 91	336
92 - Station 92	93
93 - Station 93	70
94 - Station 94	145
95 - Station 95	42
96 - Station 96	71

TOTAL: 757

Only REVIEWED incidents included. This report totals the incidents and groups by the station specified on the Basic 1 page.



East County Fire & Rescue Standard of Cover 2016



SECTION 5: ON-SCENE OPERATIONS

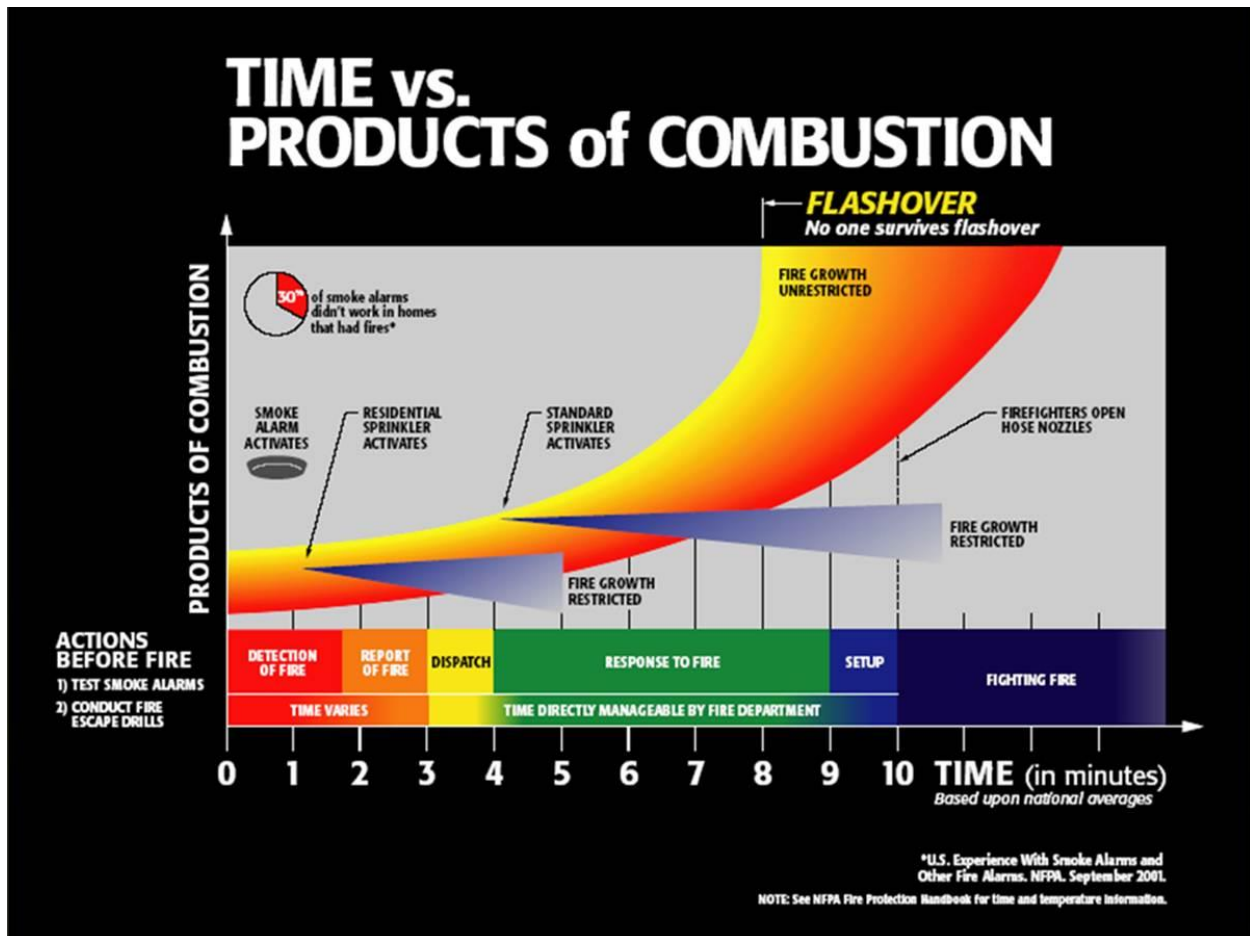


SECTION FIVE: ON-SCENE OPERATIONS

When determining overall response to various incidents, the department needs to evaluate staffing, station locations, and number of units needed to perform duties and functions on-scene. Once the department has evaluated this, response guidelines are drafted (See Figure 5a) for company and chief officers to follow. These guidelines are a baseline and allow for the company officers and chiefs to make discretionary decisions based on information received.

On-Scene Operations

The variables of fire growth dynamics and associated risks to property and life combine to determine the fire ground tasks that must be accomplished to mitigate loss. These tasks are interrelated but can be separated into two basic types, suppression and rescue. Suppression tasks are those related to getting water on the fire and fire load; suppression tasks may be integral to the saving of lives. Rescue tasks are those related to finding trapped victims and relocating them to safety. The chart below demonstrates fire growth dynamics via a time temperature curve:



East County Fire & Rescue Standard of Cover 2016

Before operations can be initiated, the Incident Commander must select an appropriate initial strategy. These strategies are determined from the county-wide Incident Management System, known as Clark County IMS. The acronym for these strategies is TRIPOD.

- Transitional – Exterior fire attack is underway; as soon as adequate resources arrive, the Incident Action Plan (IAP) will transition to an offensive mode.
- Rescue Mode – An obvious rescue exists; the two-in/two-out exemption will be exercised long enough to perform the rescue.
- Investigating Mode – More information is required; the IAP and assignments will be forthcoming.
- Preparing Mode – No fire attack is underway, only set-up; as soon as adequate resources arrive, an offensive IAP will be implemented.
- Offensive – Risk is manageable and benefits are tangible; adequate resources are on-scene to initiate an interior attack. • Defensive – Risk is not manageable and/or benefits are not tangible; operations will be restricted to an exterior attack.

APPARATUS TYPES

Fire Engines - East County Fire & Rescue currently staffs two of its 5 first-out engines with career or part-time personnel, with the rest as volunteer or call-back engines. These engines are equipped with standard equipment such as fire hose, pump, 500- 1,000-gallon water tanks, heavy extrication equipment and various tools. Certain engines carry other equipment such as stabilizing struts.

Minimum staffing for the engines is two firefighter/EMT personnel. At least one member on duty must be a paid career firefighter. Volunteers help supplement staffing as available. The department uses an intern program as a way to augment staffing on some first-out apparatus.

Brush - There are currently four brush rigs that can be used as a first-out resource should there be a need. These are staffed by the personnel regularly scheduled on an engine. These brush rigs also are available to respond on State Mobilizations through agreements with the Department of Natural Resources and the U.S. Forest Service.

Rehab - The District's rehab unit, located at Station 93, is available for a number of responses including structure fires, wildland fires, special operations, and calls which require crews to spend an extended amount of time on-scene. The bus is also available to house civilians until Red Cross arrives to help. The bus has a full complement of supplies including water, food, EMS equipment for vitals monitoring, and a pop-up shelters. Staffing for the rehab is typically done by the Support Division, but can be filled by personnel on apparatus should staffing dictate.

East County Fire & Rescue Standard of Cover 2016

Water Tenders - The District has four water tenders, used for shuttling large amounts of water to areas that have no nearby hydrants. Each water tender carries at least 2,500 gallons of water and is capable of pumping at least 500 gallons per minute. They are strategically located at Station 91, Station 93, Station 94, and Station 95. These are automatically dispatched on fires depending on hydrant availability.

GREATER ALARMS

Should an event occur that requires additional resources, the incident commander will request additional resources, which can include engines, trucks, medical resources, and additional chief officers. These resources are available through automatic aid agreements and mutual-aid agreements within Clark County, Cowlitz County, and the Department of Homeland Security Region 4.

Additionally, by request of an Incident Commander, a request for overhead personnel or activation of the regional Type 3 incident management team would provide additional command support.

Emergency Medical Services

All responding District personnel are certified as First Responders or Emergency Medical Technicians (EMT's) at a minimum for providing basic medical and trauma care. At a minimum, all first-out apparatus are staffed with two EMT's/First Responders. Basic skills include the ability to treat wounds, apply oxygen, splint fractures, deliver babies, and a full complement of medical emergencies. Additional skills include cardiac defibrillation and administering epinephrine. All career personnel are certified at the EMT-B level or higher.

A number of personnel are certified to a level that allows placement of intravenous lines for fluid replacement and a route for the administration of drugs (IV Technicians).

SPECIAL OPERATIONS

Technical Rescue "Technical rescue" is a special skill area of the fire service that focuses on the application of specific knowledge, skills, and equipment to safely resolve unique and/or complex rescue situations. Examples include rescues from confined spaces, trench collapse, water emergencies, structural collapse, and rescuing people trapped above or below grade or in other challenging situations. Providing multi-disciplined technical rescue services requires careful planning, a large time commitment from the team members, equipment research and acquisition, risk analysis, training, and funding.

The Southwest Washington Region 4 Technical Rescue Team is a group of personnel having the advanced training and special equipment to safely and efficiently conduct technical rescue operations. The Regional team consists of firefighters from Fire District 6, Vancouver Fire Department and Clark County Fire & Rescue. The team is available to respond to incidents in Washington State Region 4, which includes Clark, Skamania, Cowlitz, and Wahkiakum counties. The Southwest Washington team may also respond to the Urban Area Security Initiative (UASI) area including Multnomah, Washington, and Clackamas counties in Oregon as well as Clark County.

East County Fire & Rescue Standard of Cover 2016

Hazardous Materials A hazardous material, by definition, is "any element, compound or substance that poses an unreasonable risk to health or property and which, because of handling, storage, processing or packaging, may have detrimental effects on emergency personnel, the public, equipment and/or the environment."

At a minimum, all response personnel are trained to the Hazardous Materials Operations standard as identified by the Washington State Patrol. Career staff is certified by the International Fire Service Accreditation Congress (IFSAC). Additionally, all captains are trained and certified to the Hazardous Materials On-Scene Incident Commander standard. Should a hazardous materials incident extend beyond the scope of training of East County Fire & Rescue personnel, mutual aid agreements are in place with the Region 4 Hazardous Materials Team from the Vancouver Fire Department?

Initial Attack & Support

Through critical task analysis, the District has identified tasks and the associated number of personnel that would be required for implementing initial actions depending on the operation.

**Table
5a**

Structure Fire (Hydranted)

Task	Number of Personnel
Command/Safety	1
Pump Operations	1
Attack Line	2
Back-up Line	2
Search and Rescue	2
Ventilation	2
RIT	4
Other (Hydrant)	1
Total	15

East County Fire & Rescue Standard of Cover 2016

Structure Fire (Non-Hydranted)

Task	Number of Personnel
Command/Safety	1
Pump Operations	1
Attack Line	2
Back-up Line	2
Search and Rescue	2
Ventilation	2
RIT	4
Tender Operator	2
Total	16

Grass/Brush Fire

Task	Number of Personnel
Command/Safety	1
Pump Operator/Lookout	1
Attack Line	2
Exposure Lines	2
Structure Protection	2
Water Supply	(Depends)
Total	8

Motor Vehicle Collision (Non-Trapped)

Task	Number of Personnel
Scene Management	1
Patient Care	2
Total	3

Motor Vehicle Collision (Trapped)

Task	Number of Personnel
Command/Safety	1
Scene Management	1
Patient Care	2
Extrication	2
Pump Operator	1

East County Fire & Rescue Standard of Cover 2016

Vehicle Stabilization	1
Total	8

Emergency Medical Service

Task	Number of Personnel
Patient Management/Documentation	1
Patient Care	2
Total	3

Passenger Vehicle Fire

Task	Number of Personnel
Command/Safety	1
Pump Operation	1
Attack Line	1
Total	3

SECTION 6: SERVICE LEVEL OBJECTIVES



East County Fire & Rescue Standard of Cover 2016

SECTION SIX: SERVICE LEVEL OBJECTIVES

Below is the basic standard, as set by NFPA 1710 Chapter 4.1.2.1. Please see Appendix A for further explanation of NFPA 4.1.2.3:

- Alarm handling time to be completed in accordance with NFPA 4.1.2.3 • 80 seconds for turnout time for fire and special operations response and 60 seconds turnout time for EMS response.
- Four minutes or less travel time for the arrival of the first arriving engine company at a fire suppression incident and six minutes or less travel time for the deployment of an initial full alarm assignment at a fire suppression incident.
- Four minutes or less travel time for the arrival of a unit with first responder with automatic external defibrillator (AED) or higher level capability at an emergency medical incident.
- Six minutes or less travel time for the arrival of an advanced life support (ALS) unit at an emergency medical incident, where this service is provided by the fire department provided a first responder with AED or basic life support (BLS) unit arrived in four minutes or less travel time.

East County Fire & Rescue has set time and on-scene performance values with consideration given to NFPA 1710, the American Heart Association, and other important agencies. While the District strives to meet national standards, there are factors that must be considered when setting service level objectives. The single largest contributor to long response times is the lack of available personnel for staffing stations. As was discussed earlier in this document, 24-hour staffing is only available to two of the District's six stations. Careful consideration was given to call volume, population, etc. to determine which five stations would be staffed. Ultimately, due to financial situations beyond their control, the District made the decision to staff stations as they currently are. **With this being said, the District's response time goal is seven (7) minutes (including a one minute turnout time) 90 percent of the time.**

East County Fire & Rescue Standard of Cover 2016

Figure 6a – Cascade of Events

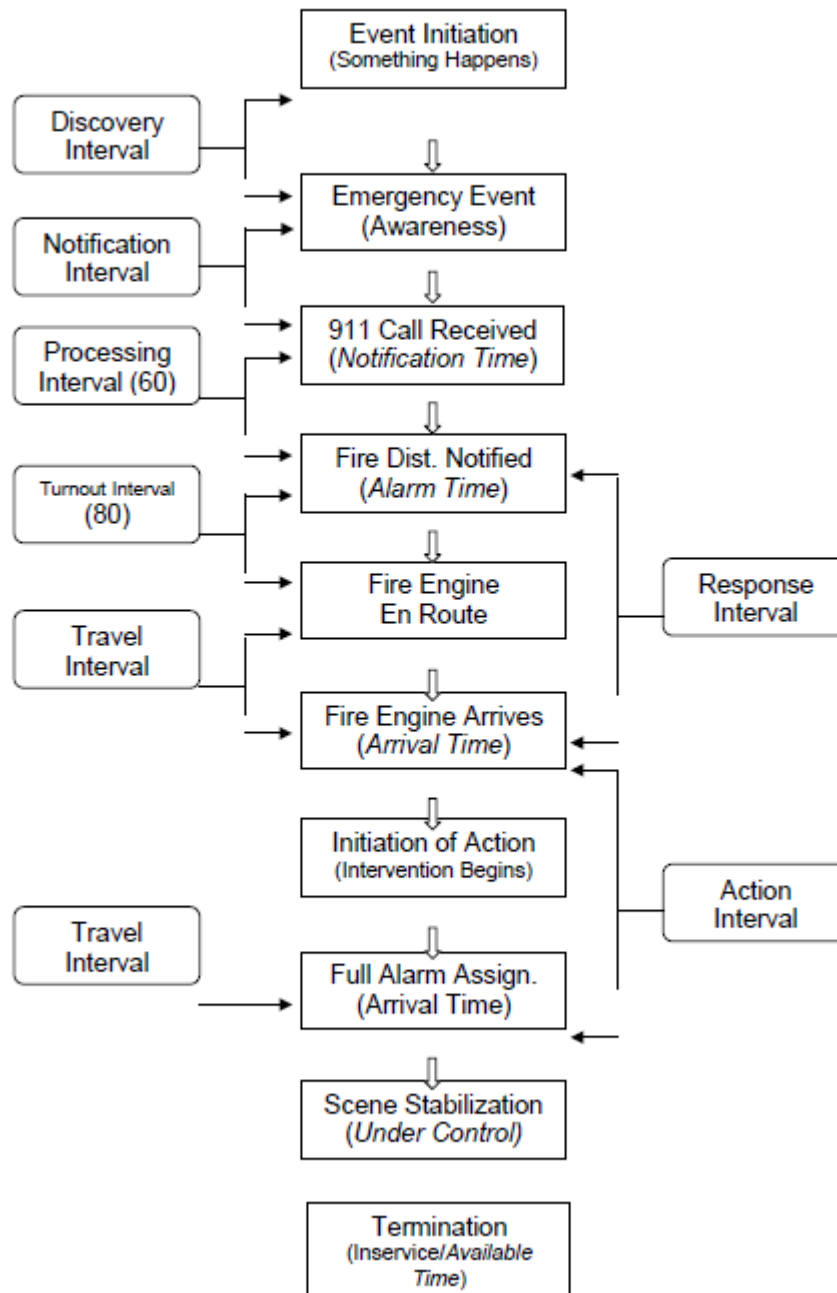
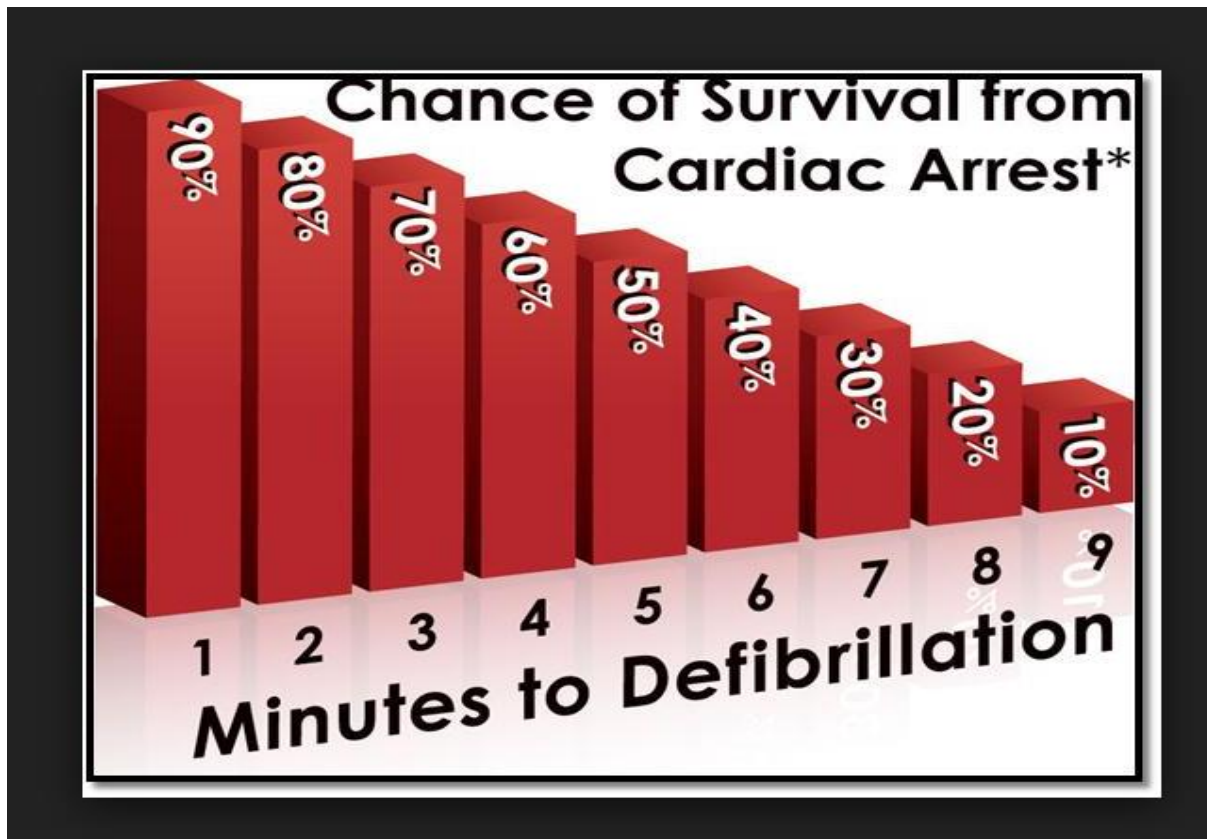
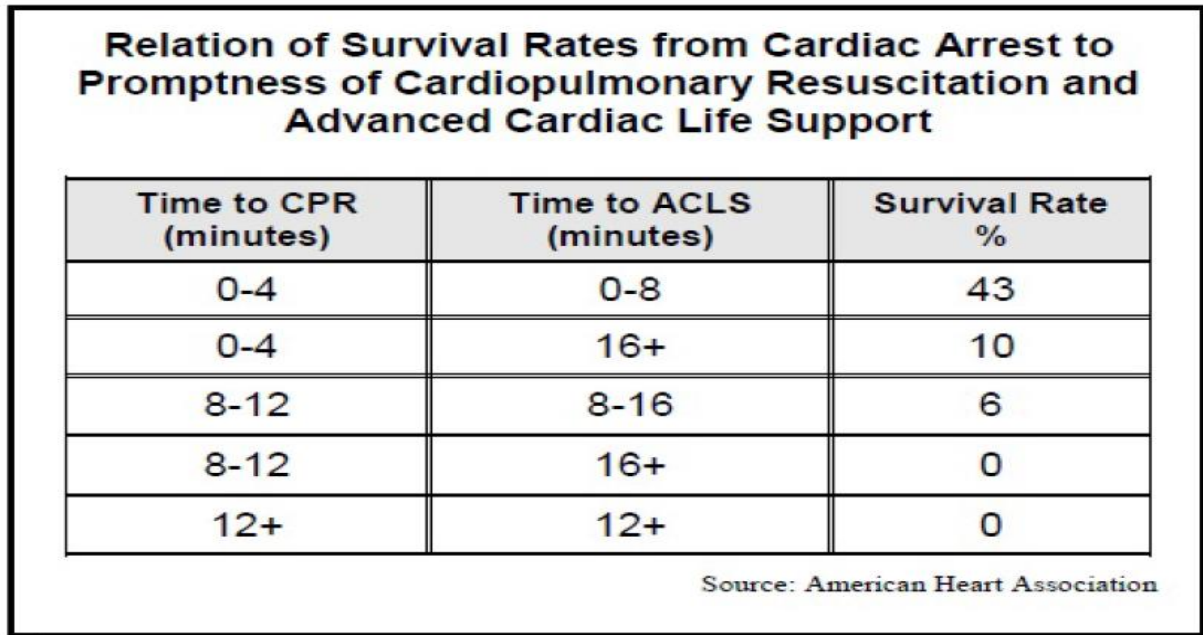


Figure 6a above refers to time points and intervals related to the cascade of events. Numbers indicated in parenthesis reflect NFPA 1710, time standards in seconds. Time points identified in italics, are recorded by, and made available through the central dispatching center.

Figure 6b- Survival Rates for CPR



SECTION 7: DISTRIBUTION OF RESOURCES



East County Fire & Rescue Standard of Cover 2016

SECTION SEVEN: DISTRIBUTION OF RESOURCES

Distribution describes the needed physical locations of resources to minimize and terminate emergencies by ensuring a sufficiently rapid first due response deployment. District fire stations are strategically located to provide coverage based on population, call volumes, and geography. Fire station locations of neighboring jurisdictions are located in such a manner that geospatial positioning is fairly proportionate.

As pictured in Figure 7a, East County Fire & Rescue operates a total of six stations, two of which are staffed 24 hours a day, seven days a week.

Each regularly staffed station will have a minimum of two personnel per first response apparatus. The duty chief has the authority to place personnel where they best meet the District’s needs.

Typically, staffing is augmented by volunteers, and interns. While the below chart is indicative of normal minimum staffing, the District strives to have at least two paid personnel per first out apparatus.

**Figure
7a**

Location	Staffing
Station 91 - 600 NE 267th Avenue, Camas	
E91	2 Paid
SQ91	Staffed by E91 crew if needed
WT91	Staffed by E91 crew/volunteer
Station 92 - 4909 NE 292nd Avenue, Camas	
E92	Volunteer
Station 93 - 121 NE 312th Avenue, Washougal	
E93	Volunteer
SQ93	Volunteer
A93	Volunteer
WT93	Volunteer
RH93	Volunteer
Station 94 - 1808 SE 352nd Avenue, Washougal	
E94	2 Paid
SQ94	Staffed by E91 crew if needed
WT94	Staffed by E91 crew/volunteer
E95	Volunteer
Station 95 - 211 39th Street, Washougal	
WT95	Volunteer
Station 96 - Bear Prairie, Washougal	
SQ96	Resident

East County Fire & Rescue Standard of Cover 2016

Fire Station Placement

East County Fire & Rescue, as discussed in the Executive Summary of this document, was formed in 2006 because of a merger between Clark County Fire Districts 1 and 9. Upon completion of the merger, the department had five stations, of which two were staffed. Each department had recently gone through either a remodeling process or new construction of current stations. At the time of the merger, station placement was determined to be adequate for the types of calls, response times, and volume in relation to NFPA, Insurance Services Office (ISO) and Emergency Medical Services standards.

Figure 7b following is a representation of what resources are deployed for first alarm structure fires, hazardous material incidents, marine fires, etc. Additional alarms typically mirror first alarm

East County Fire & Rescue Standard of Cover 2016

assignments, and CAD is programmed through a fourth alarm.

Figure 7b: First Alarm Response Deployment Plan

Event Type	Sub type	Description	Description	Priority	1st Alarm
FAIR	L	AIRCRAFT EMERGENCY	LARGE	1	BC, 3E, 1TO-sub E, 1HR
FAIR	M	AIRCRAFT EMERGENCY	MILITARY	1	BC, 3E, 1TO-sub E
FAIR	S	AIRCRAFT EMERGENCY	SMALL	1	BC, 2E, 1TO
FAIR	U	AIRCRAFT EMERGENCY	UNKNOWN/INVESTIGATION	5	1E Agency Only
FALA	C	ALARMS	CARBON MONOXIDE	5	1E Agency Only
FALA	CO	ALARMS	COMMERCIAL	5	BC, 2E Agency Only
FALA	H	ALARMS	HIGH RISE	5	BC, 2E Agency Only
FALA	M	ALARMS	MULTIPLE RESIDENTIAL UNIT	5	BC, 2E Agency Only
FALA	R	ALARMS	RESIDENTIAL	5	1E Agency Only
FALA	S	ALARMS	SMOKE DETECTOR	5	1E Agency Only
FALA	W	ALARMS	WATER FLOW	5	1E Agency Only
FELE	A	ELECTRICAL	APPLIANCE ARCING/NO FIRE	5	1E Agency Only
FELE	L	ELECTRICAL	LIGHTNING STRIKE	5	1E Agency Only
FELE	T	ELECTRICAL	TRANSFORMER/WIRE ARC	5	1E Agency Only
FELE	W	ELECTRICAL	WIRES DOWN	5	1E Agency Only
FEXP	B	EXPLOSION	BOMB THREAT ONLY	5	1E Agency Only
FEXP	O	EXPLOSION	OUTSIDE	2	1E
FEXP	S	EXPLOSION	STRUCTURE	1	BC, 3E, 1TO-sub E
FEXP	V	EXPLOSION	VEHICLE	1	1E
FHAZ	C	HAZMAT	CONTAINED	5	1E Agency Only
FHAZ	CO	HAZMAT	COMMERCIAL VEHICLE	1	BC, 2E
FHAZ	D	HAZMAT	DRUG LAB	5	1E Agency Only
FHAZ	U	HAZMAT	UNCONTAINED	1	BC, 2E
FMAR	H	MARINE FIRE	HOUSE BOAT	1	BC, 3E, 1TO-sub E, 2FB, 1HR
FMAR	P	MARINE FIRE	PLEASURE CRAFT	1	BC, 1E, 1FB
FMAR	S	MARINE FIRE	SHIP (> 50 FEET)	1	BC, 1E, 1FB
FMAR	W	MARINE FIRE	WORK BOAT (< 50 FEET)	1	BC, 1E, 1FB
FOUT	B	OUTSIDE	BARKDUST	5	1E Agency Only
FOUT	D	OUTSIDE	DUMPSTER	5	1E Agency Only
FOUT	DE	OUTSIDE	DUMPSTER W/EXPOSURE	2	BC, 2E
FOUT	G	OUTSIDE	GRASS / BRUSH FIRE	2	1E Winter and BC, 1E, 2Brush Summer
FOUT	GE	OUTSIDE	GRASS/ BRUSH W/EXPOSURE	2	BC, 1E, 2Brush
FOUT	S	OUTSIDE	SMOKE SEEN	5	1E Agency Only
FOUT	U	OUTSIDE	UNKNOWN/INVESTIGATION	5	1E Agency Only
FPA	AN	PUBLIC ASSIST/Service Call	ANIMAL	5	1E Agency Only
FPA	B	PUBLIC ASSIST/Service Call	BOAT IN DISTRESS	3	BC, 1E, 1FB Agency First
FPA	BU	PUBLIC ASSIST/Service Call	BURNING COMPLAINT	5	1E Agency Only
FPA	FM	PUBLIC ASSIST/Service Call	FIRE MARSHAL ASSIST	5	1E Agency Only
FPA	L	PUBLIC ASSIST/Service Call	LOCK-OUT	5	1E Agency Only
FPA	P	PUBLIC ASSIST/Service Call	POLICE ASSIST	5	1E Agency Only
FPA	U	PUBLIC ASSIST/Service Call	UNKNOWN/INVESTIGATION	5	1E Agency Only
FPA	W	PUBLIC ASSIST/Service Call	WATER PROBLEM	5	1E Agency Only
FSM	F	SMELL / ODOR/FUEL SPILL	FUEL SPILL	3	1E Agency First
FSM	GI	SMELL / ODOR/FUEL SPILL	GAS INSIDE	2	1E
FSM	GO	SMELL / ODOR/FUEL SPILL	GAS OUTSIDE	3	1E Agency First
FSM	U	SMELL / ODOR/FUEL SPILL	UNKNOWN	3	1E Agency First
FSTR	A	STRUCTURE FIRE	APPLIANCE	3	1E Agency First
FSTR	C	STRUCTURE FIRE	CHIMNEY	3	2E Agency First
FSTR	CO	STRUCTURE FIRE	COMMERCIAL	1	BC, 3E, 1TO-sub E, 1SR
FSTR	H	STRUCTURE FIRE	HIGH RISE	1	BC, 3E, 1TO-sub E, 1VFDT, 1SR
FSTR	M	STRUCTURE FIRE	MULTIPLE RESIDENTIAL UNIT	1	BC, 3E, 1TO-sub E, 1SR
FSTR	O	STRUCTURE FIRE	OUTBUILDING	2	BC, 3E, 1TO-sub E, 1SR
FSTR	R	STRUCTURE FIRE	RESIDENTIAL	1	BC, 3E, 1TO-sub E, 1SR
FTRA	A	TRAIN INCIDENT	ACCIDENT	1	BC, 2E, 1TO-sub E, 1HR
FTRA	D	TRAIN INCIDENT	DERAILMENT	1	BC, 3E, 1TO-sub E, 1HR
FTRA	F	TRAIN INCIDENT	FIRE	1	BC, 3E, 1TO-sub E, 1HR
FVEH	CO	VEHICLE FIRE	COMMERCIAL	2	2E
FVEH	P	VEHICLE FIRE	PASSENGER	2	1E

SECTION 8: CONCENTRATION OF RESOURCES



East County Fire & Rescue Standard of Cover 2016

SECTION EIGHT: CONCENTRATION OF RESOURCES

In Section Seven, Distribution of Resources, details are given concerning station locations in regards to population, call volume and geography. Concentration of resources involves assigning a density of resources so that areas with increased risk can be protected sufficiently.

Concentration also refers to the ability to adequately assemble resources to provide an effective response force for incidents requiring multiple companies. An initial effective response force is the determined number of apparatus/personnel that could most likely stop the continuation of a structure fire, effectively mitigate a rescue, or handle a complex medical emergency.

There are several factors to be considered when analyzing East County Fire & Rescues concentration of resources. The largest single factor affecting the District is its expansive response area. Combined, the District serves approximately 60 square miles. The District normally staffs two first out apparatus, there is one located on each side of the Washougal River.

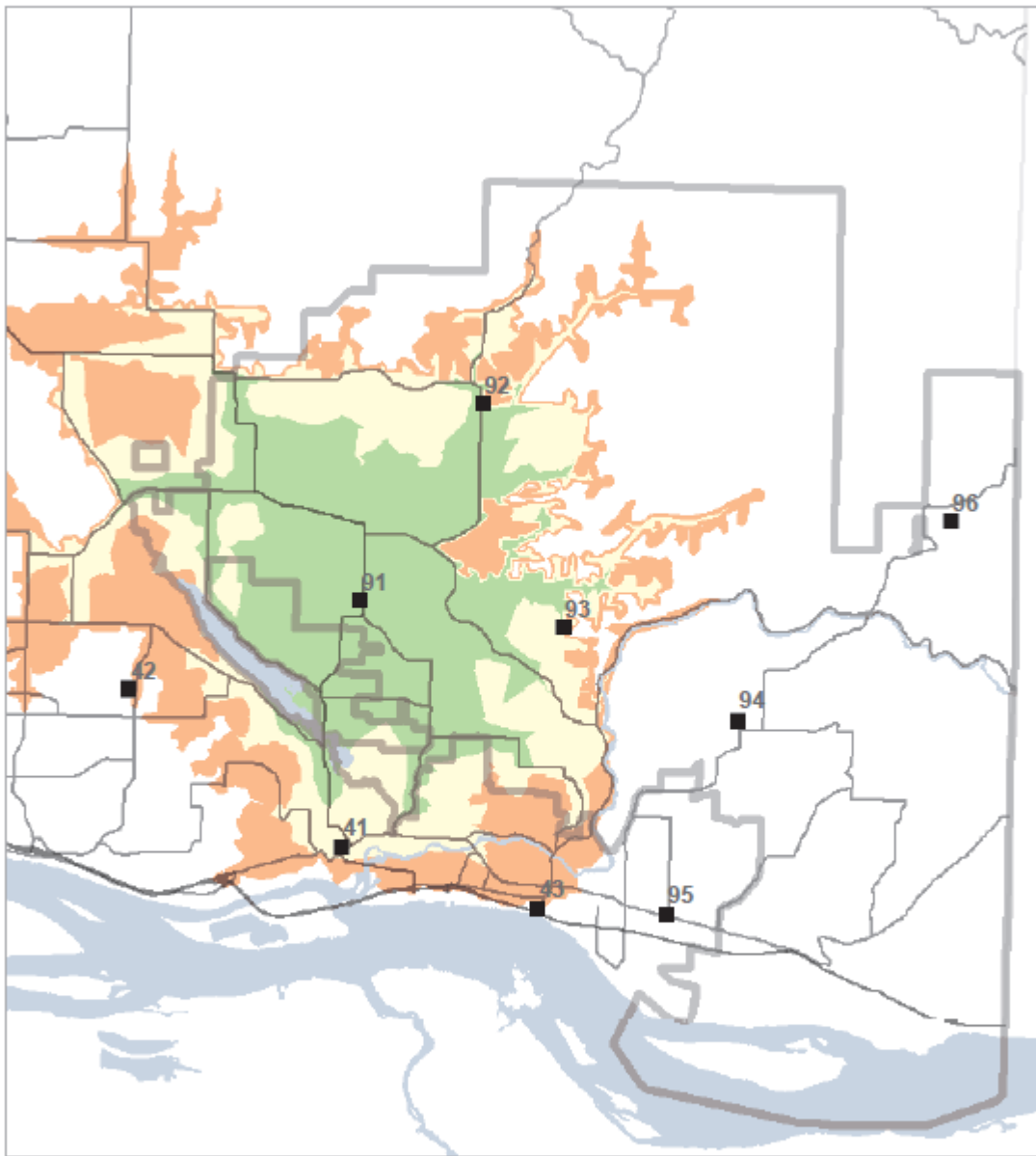
The following maps depict approximate response times for the normal staffing model of Stations 91, and 94. These approximate response times are shown in the 5, 7 and 9 minute format not including turnout time.

Based on the data shown on the Staffed Fire Station Service areas, East County Fire & Rescue is adequately meeting the response needs of citizens in the most populated areas. According to response time data (see Section 9), the District responds to 90% of all EMS calls in 10 minutes or less. When comparing the coverage areas between the 7-minute time and 10-minute time, the differences are minimal, mainly due to rural road access.

In conclusion, East County Fire & Rescue's distribution of resources allows for adequate coverage for the District as a whole, but falls short in northern most areas of the District. As new construction happens and population expands, it will be imperative to revisit this section in the future to ensure our customer base is receiving the best possible response. See Section 10, The Future, for further information regarding expected growth.

East County Fire & Rescue Standard of Cover 2016

Five, Seven and Nine Minute Service Areas for Station 91 East County Fire and Rescue, Clark County, Washington

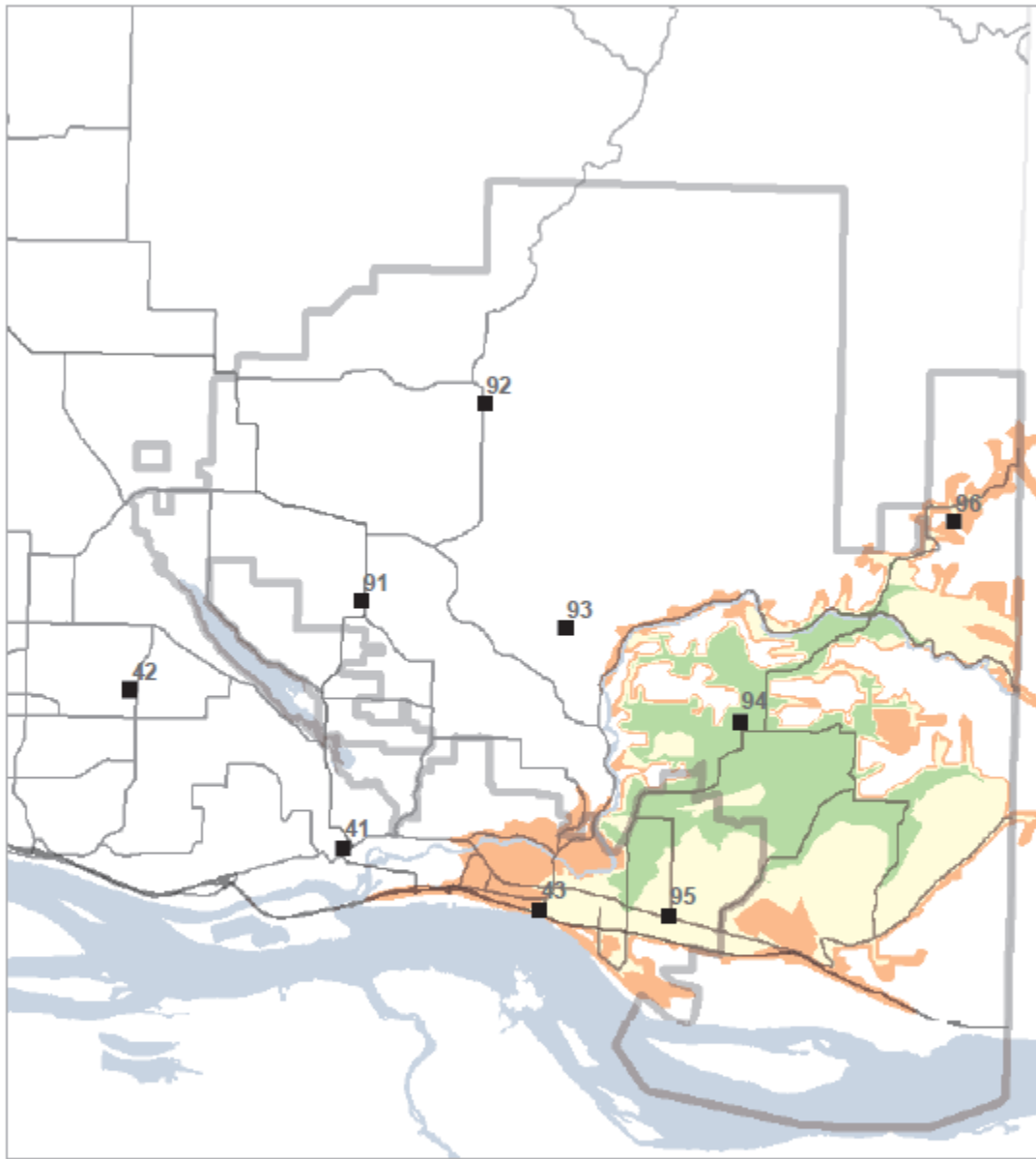


- Legend**
- Fire Station
 - 0 - 5 Minutes
 - 5 - 7 Minutes
 - 7 - 9 Minutes
 - ECFR Boundary



East County Fire & Rescue Standard of Cover 2016

Five, Seven and Nine Minute Service Areas for Station 94 East County Fire and Rescue, Clark County, Washington



- Legend**
- Fire Station
 - 0 - 5 Minutes
 - 5 - 7 Minutes
 - 7 - 9 Minutes
 - ECFR Boundary



SECTION 9: HISTORICAL DATA



East County Fire & Rescue Standard of Cover 2016

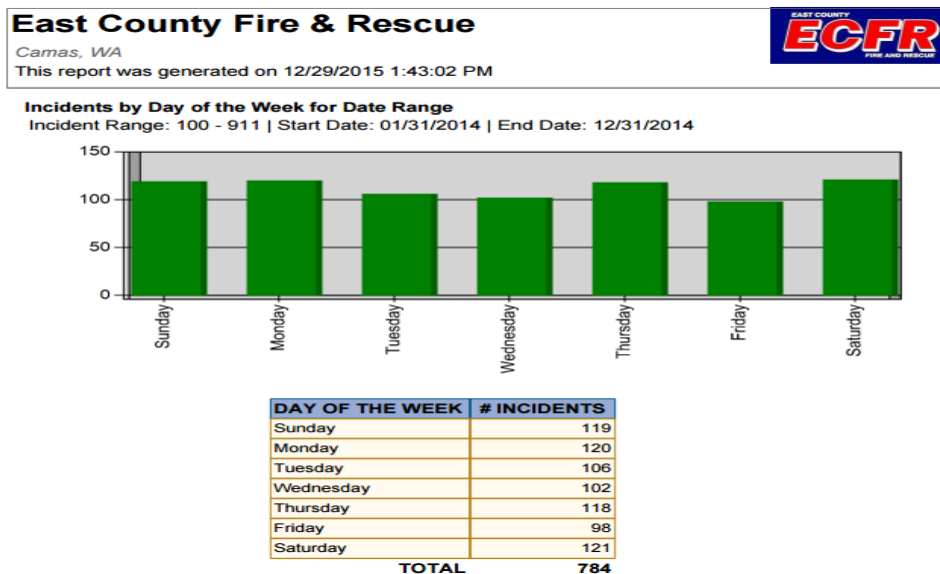
SECTION NINE: HISTORICAL DATA

East County Fire & Rescue obtains call data from three sources: Emergency Reporting, CRESA/Sharepoint, and First Watch. Emergency Reporting, the department's report writing and record keeping software, is the main contributor to the data provided in this section. Some examples of data that can be extracted from the three programs are call volume, training hours, public education events, and total volunteer hours by volunteer member. Specific or customized reports can be easily accessed for commissioner or other important meetings and presentations.

It should be noted the data from Emergency Reporting can, at times, be slightly inaccurate. This depends solely on how the incident or call report was written; more specifically the exact call type that was entered. An example would be one firefighter entering the call as a "Fire-Other" and another firefighter entering a chart for the same call as a "Smell of Smoke." These errors are few and far between as time goes on and refresher courses are given to personnel. Each shift has instituted a QA/QI person to oversee chart writing and to make sure charts are being done in a timely manner.

First Watch, the other source, is a website that compiles raw data directly from CRESA as it was dispatched and places it into a meaningful format to help departments improve operational needs. The department itself sets the definitions, or key performance indicators, to observe performance and meet operational expectations.

Data for this section was compiled over a three-year span, 2012-2014. It should be noted there was a significant increase in call volume for most of 2012 with the implementation of closest unit and a decrease in 2014 when run cards were changed to closest units being dispatched only on priority 1 and priority 2 calls.



East County Fire & Rescue Standard of Cover 2016

East County Fire & Rescue

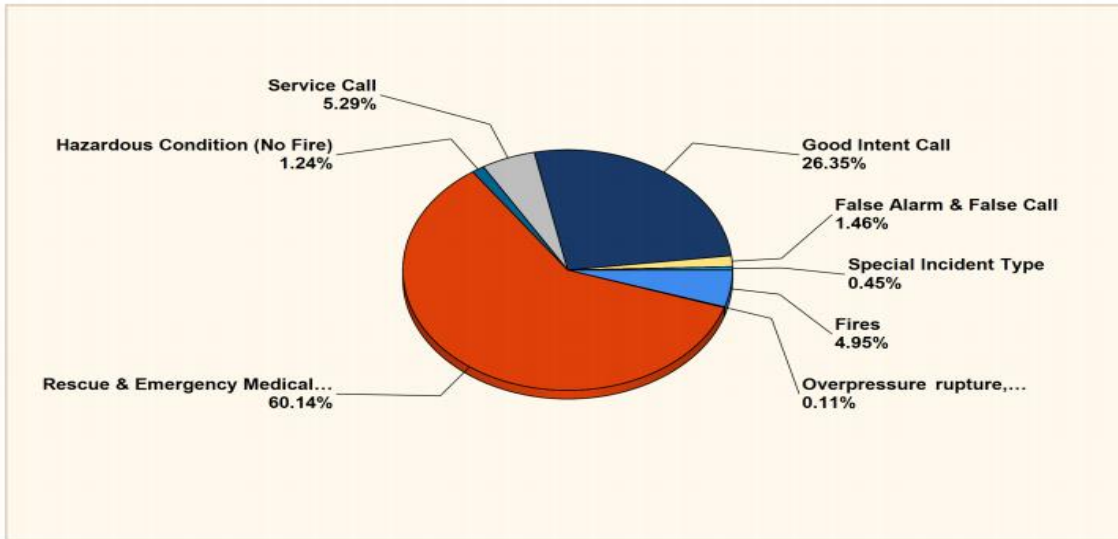
Camas, WA

This report was generated on 12/29/2015 1:33:42 PM



Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 01/01/2011 | End Date: 12/31/2011



East County Fire & Rescue

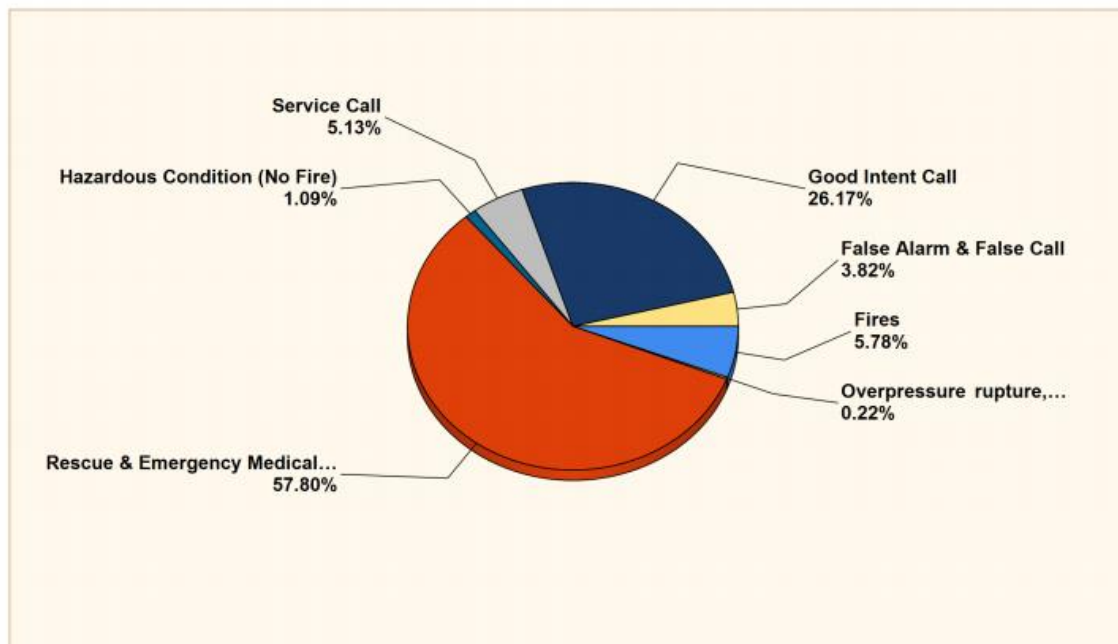
Camas, WA

This report was generated on 12/29/2015 1:48:41 PM



Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 01/01/2012 | End Date: 12/31/2012



East County Fire & Rescue Standard of Cover 2016

East County Fire & Rescue

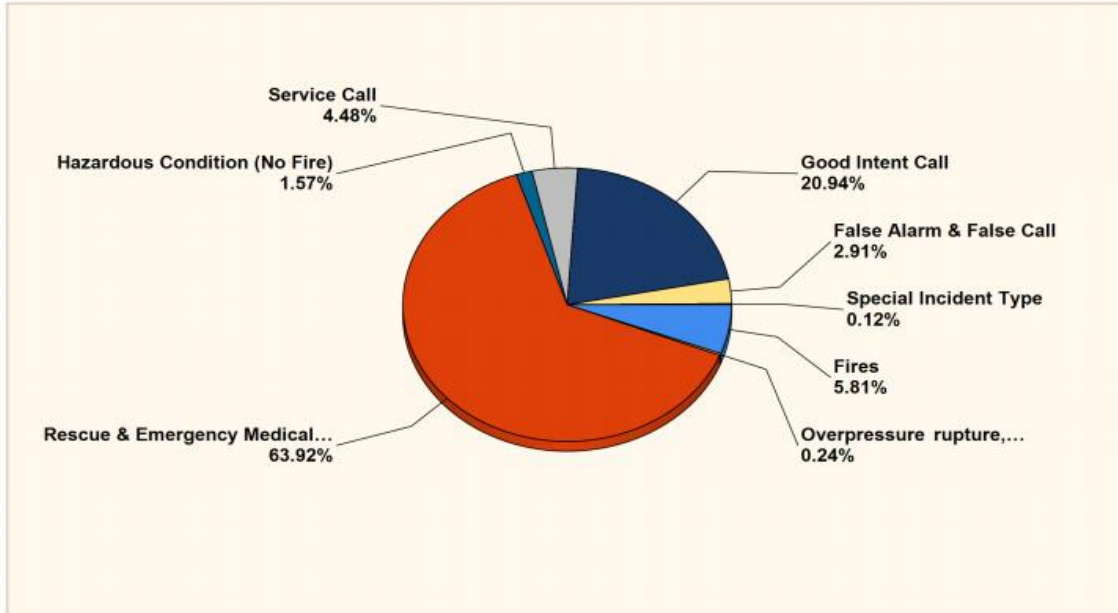
Camas, WA

This report was generated on 12/29/2015 1:49:37 PM



Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 01/01/2013 | End Date: 12/31/2013



East County Fire & Rescue

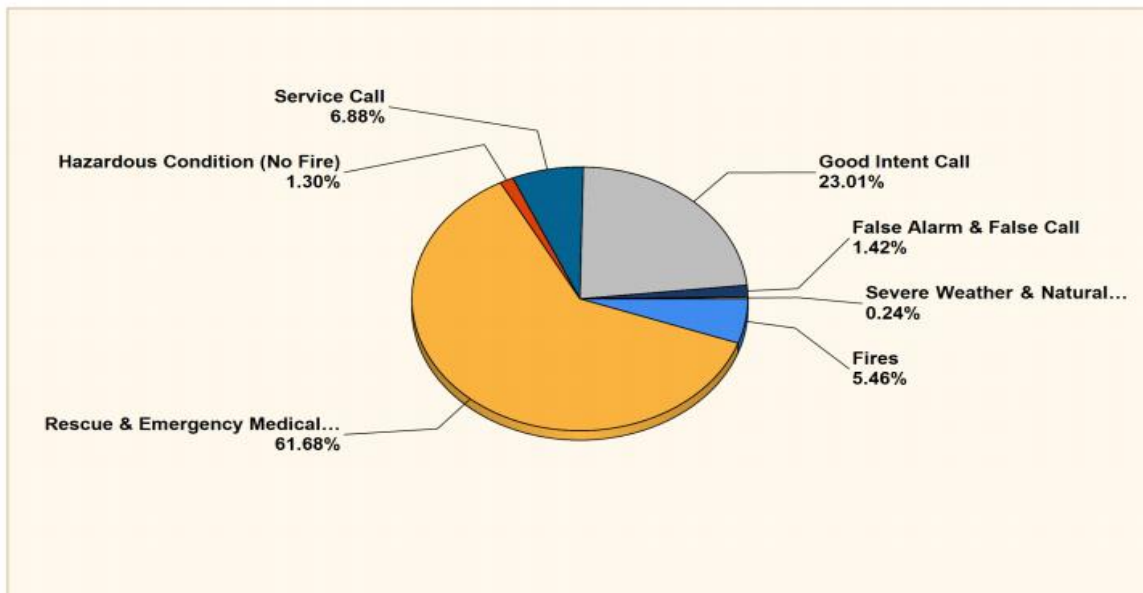
Camas, WA

This report was generated on 12/29/2015 1:50:17 PM



Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 01/01/2014 | End Date: 12/31/2014



East County Fire & Rescue Standard of Cover 2016

East County Fire & Rescue

Camas, WA

This report was generated on 1/13/2016 9:54:00 AM



Incident Statistics

Start Date: 01/01/2015 | End Date: 12/31/2015

LIGHTS AND SIREN - AVERAGE RESPONSE TIME (Dispatch to Arrival)		
Station	EMS	FIRE
Station 91	0:07:11	0:10:10
Station 92	0:12:02	0:17:28
Station 93	0:08:26	0:09:15
Station 94	0:09:53	0:14:28
Station 95	0:12:20	0:17:51

LIGHTS AND SIREN - AVERAGE TURNOUT TIME (Dispatch to Enroute)		
Station	EMS	FIRE
Station 91	0:01:23	0:02:25
Station 92	0:01:33	0:01:27
Station 93	0:01:36	0:01:28
Station 94	0:01:47	0:02:17
Station 95	0:01:21	0:01:00

SECTION 10: THE FUTURE



East County Fire & Rescue Standard of Cover 2016

SECTION TEN: THE FUTURE

East County Fire & Rescue has continually improved its delivery of high quality fire and emergency medical services to its community since its inception in 2006. The career staffing has expanded from 1 career firefighter in 2009 to 9 career firefighters today. Volunteer staffing has ranged from a high of 50+/- combat volunteers to a current low of 18+/- combat volunteers. The district's intern program is successful at helping students gain valuable knowledge about the fire service while providing additional staffing to first out apparatus. The goal of the district is to have 3 intern firefighters at all times.

The department obtained grants in the following amounts:

- \$725,000 SAFER Grant for staffing.
- \$299,500 SAFER Grant for the volunteer program.
- \$20,000 AFG grant for new hose and nozzles.
- \$10,000 Georgia Pacific grant for extrication equipment.

Administration and IAFF Local 2444 have continued to work cooperatively and creatively to increase staffing, and recently have agreed to a three year contract.

With the upturn in the economy, the department has seen an increase in residential construction in its service area. Population, as noted in the "Communities Served" section, has grown steadily over the past 20 years and will continue to see considerable growth.

Commercial growth is limited by zoning and any commercial growth is expected to be minimal.

Previous to our current Strategic Plan the district used a Goals and Objectives. While some of the goals that were set since 2009 have been met, many have yet to be accomplished. The following recommendations (in no particular order) are based on our current Strategic Plan, as well as recommendations by the Fire Chief, and would work hand-in-hand with this Standard of Cover to better serve the citizens of East County Fire & Rescue:

- 1. Staffing of Two Stations** – 24/7 by January, 2017 through reducing expensed and identifying a sustainable funding stream for a total of 9 full-time and 6 part-time firefighters.
- 2. Prepare a Plan for Deployment and Configuration** of stations, equipment, and staff for optimal coverage and response for geography and demographics.

East County Fire & Rescue Standard of Cover 2016

- 3. On-going dialog with elected officials** – Cities of Camas and Washougal and the Camas/Washougal Fire Department

- 4. Review and Analysis of Current Volunteer Program** – Group to review and recommend improvements to the volunteer program.

- 5. Permanent Capital Funding** – Develop a Facilities Improvement Policy and Develop an Apparatus Purchasing Policy.

- 6. Determine Administrative Staffing Structure** – Currently seeking a Fire Chief.

- 7. Communications – Improvements to the district Web Site**

East County Fire & Rescue Standard of Cover 2016

APPENDIX A: NFPA 1710 Chapter 4 4.1.2.3 Alarm Handling. 4.1.2.3.1 The fire department shall establish a performance objective of having an alarm answering time of not more than 15 seconds for at least 95 percent of the alarms received and not more than 40 seconds for at least 99 percent of the alarms received, as specified by NFPA 1221. 4.1.2.3.2 When the alarm is received at a public safety answering point (PSAP) and transferred to a secondary answering point or communication center, the agency responsible for the PSAP shall establish a performance objective of having an alarm transfer time of not more than 30 seconds for at least 95 percent of all alarms processed, as specified by NFPA 1221. 4.1.2.3.3 The fire department shall establish a performance objective of having an alarm processing time of not more than 60 seconds for at least 90 percent of the alarms and not more than 90 seconds for at least 99 percent of the alarms, as specified by NFPA 1221. 4.1.2.4 The fire department shall establish a performance objective of not less than 90 percent for the achievement of each turnout time and travel time objective specified in 4.1.2.1.