



# 2015 Annual Report

## *Seattle Fire Department*

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# From the Fire Chief—Harold D. Scoggins

The Seattle Fire Department is proud to present our 2015 Annual Report. Over the past year, our units responded to more than 94,000 calls for service to the community out of our 33 neighborhood fire stations, we had an opportunity to educate more than 20,000 community members in the area of fire and life safety, while our Medic II program taught CPR to more than 9,000 residents. Between the Fire Marshal's Office and Operations Division, we inspected more than 35,000 buildings to ensure the safety of the community – in short, 2015 was a busy year!

2015 brought about the completion of three stations – 11, 20 and 26. These completed stations will provide some of the latest technology, amenities and necessities to meet the needs of SFD for years to come. Stations 22 and 32 continue to move forward and keep the levy on pace to wind down in the next couple of years.

Our Training Division completed two recruit classes, resulting in 60 new firefighters, despite the addition; we are still left with 88 vacancies. With many expected retirements in the coming years, we will continue our efforts to make sure that we have the staffing needed to meet the needs of the community.

The world watched as our people responded to a tragic vehicle collision. The Aurora Bridge incident tested our skills in Incident Command System, EMS, communications, teamwork, coordination and mental strength. This complex incident presented many challenges for our firefighters and I was extremely proud of the discipline, professionalism and resolve that our people displayed.

Our accomplishments have also created challenges for us – the rising calls for service, station remodels or rebuilds, filling the many vacancies throughout the department and mitigating significant emergencies.

Over the last four years, we've experienced up to a 6% annual increase in total call volume. This rise in call load challenges many of our day to day activities, including building inspections, training and public education opportunities. The inspection and education activities provide a significant service to the community, while consistent training prepares firefighters to meet challenges safely.

SFD continues to focus on its mission of saving lives and property through effective incident management in the delivery of services to the community. Our values of *Integrity, Teamwork, Compassion, Courage* and *Diversity* continue to help guide us as an organization. Our vision will continue to push us forward and maintain our status throughout the United States as a leader in the delivery of *Fire & EMS Services*. Thank you to the members of the SFD for your service and to the community for your ongoing support.

*One of the most powerful, and deeply spiritual, ways to work for social change is for us to take action in the present that embodies -- right now! -- the future vision that we see. - Rabbi Arthur Ocean Waskow*



## Annual Report

The numbers and information in this report are for 2015. The Fire Department continually tracks these statistics and looks for ways to improve skills, training, services and response capabilities. In 2015, the Seattle Fire Department responded to 94,346 calls, an increase of 3.3 percent over 2014.



## Seattle Fire Department

The Seattle Fire Department strives to provide the best service possible by putting the community and its needs first. It is the Fire Department's goal to actively engage Seattle's residents. The Seattle Fire Department values and respects diverse internal and external cultures, constantly working to improve service delivery to all of Seattle's residents. Through feedback and other cooperative communication processes, the Fire Department works to ensure the community is informed of and able to access programs and services.

The Seattle Fire Department has existed as a fire department within the State of Washington since October 17, 1889, when the Seattle City Council passed Ordinance No. 1212. The services provided by the Seattle Fire Department include:

- ◆ Critical fire suppression services and emergency medical care
- ◆ Technical teams, including technical and heavy rescue, dive rescue, tunnel rescue, marine fire response, and hazardous materials (HazMat) response
- ◆ Fire prevention and public education
- ◆ Fire investigation
- ◆ Mutual aid response to neighboring jurisdictions

## Vision

The Seattle Fire Department: a national leader in responding to and preventing emergencies with a commitment to excellence and teamwork.

## Mission

The mission of the Seattle Fire Department is to save lives and protect property through emergency medical service, fire and rescue response and fire prevention. We respond immediately when any member of our community needs help with professional, effective and compassionate service.

## Values

**Integrity**—We are honest, trustworthy and accountable. Honor guides our actions.

**Teamwork**—We each bring our own skills and experience, yet we recognize that we are better together. We support and depend on each other to achieve our goals.

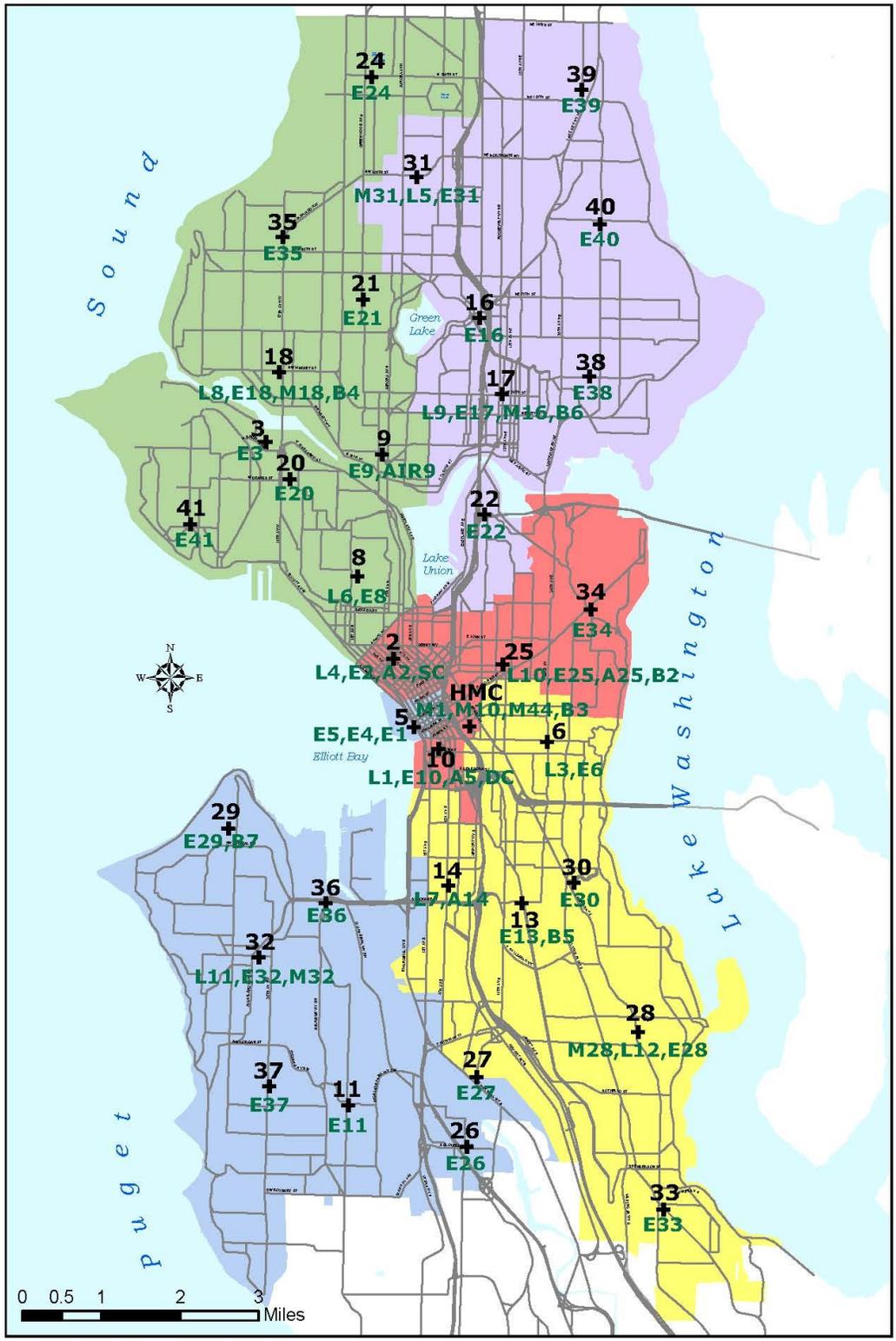
**Compassion**—Caring is part of our job. We could not do what we do without a deep and motivating empathy for those we serve.

**Courage**—We show fortitude and determination in a crisis.

**Diversity**— We respect the different identities, experiences, and perspectives of those that we work with and the community we serve.

# Seattle Fire Department Stations, Map and Apparatus Profile

33 Fire Stations
Medic One at Harborview Medical Center
33 Engines
11 Ladder Trucks
5 Aid Units (Basic Life Support)
7 Medic Units (Advanced Life Support)
2 Air Trucks
2 Hose Wagons
4 Fire Boats
Additional specialized apparatus



**LEGEND**

<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Battalion 2	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> Battalion 4	<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Battalion 5	<span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> Battalion 6	<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Battalion 7	SFD FIRE STATIONS	ARTERIAL
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# Tiered Response System

The Seattle Fire Department provides emergency response through five battalions, consisting of 33 fire stations (plus the Medic One unit at Harborview Medical Center) strategically placed around the city in order to maximize coverage and minimize response time.

These stations are staffed 24 hours a day, seven days a week, by four separate shifts. To meet the needs of the city and provide emergency response services to the residents of Seattle, SFD has 987 uniformed personnel, 37 department chiefs, 902 firefighter/EMTs, 70 firefighter/paramedics and 85 civilian personnel.

Every day, there are 209 members responding to emergencies across the city. Depending on the type of emergency, the Fire Alarm Center will dispatch the appropriate resources to provide fire suppression, Basic Life Support (BLS), Advanced Life Support (ALS) and technical operations. All of SFD's firefighters are certified Emergency Medical Technicians, in a BLS incident, a fire engine, aid car and/or ladder truck will be the first responders. If a medical emergency requires ALS, one of the seven medic units will also be dispatched to the scene. Certain type of emergencies require multiple units, for example, an individual experiencing sudden cardiac arrest will have three units come to their aid. Similarly for fires and other emergencies, the dispatcher will assign the appropriate resources to protect life and property.



## Technical Operations

The Seattle Fire Department has developed technical operations response Policies and Operating Guidelines (POG) that specify the roles and responsibilities of the fire department and the authorized functions of members responding to incidents that meet the definition of “technical operations” in accordance with NFPA 1710, which reads as follows:

- ◆ Those emergency incidents to which the fire department responds that require specific and advanced training and specialized tools and equipment.
- ◆ These types of incidents include but are not limited to hazardous materials, technical and heavy rescue, marine fire response and rescue, dive rescue, wildland firefighting, and CBRNE response. However, in all cases, the fire department is limited to performing only those specific technical operations functions for which responding personnel have been trained and are correctly equipped.
- ◆ The Seattle Fire Department Firefighters are trained to operations level for response to technical operations incidents within the Seattle Fire Department. The Seattle Fire Department's response time standard for operations level firefighters is the same as a fire suppression call. Arrival of technical or special operations level trained response teams has not historically been tracked.

# Cascade of Events

The Commission on Fire Accreditation International (CFAI) has defined response time elements as a cascade of events. This cascade is similar to that used by the medical community to describe the events leading up to the initiation, mitigation, and ultimate outcome of a cardiac arrest. It is imperative to keep in mind that certain intervals described, such as turnout and travel time, can be directly influenced by the fire service via station locations and design, staffing levels, as well as local rules and procedures for response. Other factors, such as the alarm interval, can be influenced indirectly through public education and engineering initiatives. The fire service can also influence the call-processing interval through its ability to define standards and compel performance by its dispatch centers.



## Time Temperature Standard

The “time-temperature curve” standard is based on data from the National Fire Protection Association (NFPA) and the Insurance Services Organization (ISO), which have established that a typical point source of ignition in a residential house will “flash over” at some time between five and 10 minutes after ignition, turning a typical “room and contents” fire into a structural fire of some magnitude.

## Time Temperature Curve

The utility of the time-temperature curve for fire station placement is limited a number of factors including:

- ◆ It does not account for the time required for the existence of a fire to be “discovered” and reported to the fire department via the 911 system.
- ◆ The time from ignition to flashover varies widely (5-30 minutes depending on building characteristics); thus it cannot provide a valid basis for the allocation of resources.
- ◆ The curve is constantly shifting, given the numerous changes in building construction, built in suppression systems, the increased use of fire resistive materials for furniture, and other items typically found in the interior of occupied buildings.



## Cardiac Arrest Survival Standard

In communities where the fire service is the principal provider of Emergency Medical Services (EMS) first response, the “chain of survival” standard shown in the figure below was developed by the American Heart Association and is often used to provide guidance for distribution of resources. The chain of survival suggests that basic life support (CPR and defibrillation) should be available to the victim of a cardiac arrest within four minutes of the event, and that advanced life support (paramedic service) should be available within eight minutes or less of the event. Early notification, distribution and concentration of emergency response services are thus paramount to successful resuscitation efforts.

## The Golden Hour Standard

In trauma events, the golden hour is the historic benchmark applied to victims with significant critical traumatic injuries. The golden hour reflects the concept that survivability decreases significantly if the patient isn't in the operating room within one hour of receiving a critical traumatic injury.



## Medic One

Established in 1970 as a joint effort between Seattle Fire Department, Harborview Medical Center, and the University of Washington, the Medic One program combines rigorous training and innovative medical techniques in a two-tiered emergency response system. Paramedics provide direct Advanced Life Support (ALS) services to the residents of Seattle, which previously could only be performed by a licensed physician. Unparalleled cardiac arrest survival rates and the popular Citizen CPR Training Program (Medic II) have given Medic One a world class reputation, attracting representatives from public safety agencies around the world to study and attempt to replicate the program's success in their jurisdiction. In 2015, over 9,100 people were trained or retrained in CPR/AED and first aid techniques through the Medic II program.

## Battalion 3—Paramedics

In 2015, the department's 71 Mobile Intensive Care paramedics completed enrolling patients in the Amiodarone, Lidocaine or Placebo Study (ALPS) which was subsequently published in the New England Journal of Medicine. They began enrolling patients in a randomized study evaluating the effectiveness of a drug, tranexamic acid, to decrease internal brain bleeding following serious head injury. Battalion 3 graduated four new paramedics and sent three additional EMTs to begin training as paramedics at Harborview's Paramedic Training Program. Paramedics continued to evaluate the usefulness of the LUCAS 2 chest compression system piloted in 2014. It allows safe transportation of carefully selected patients with ongoing CPR to the hospital's cardiac catheterization lab where cardiologists may sometimes successfully open clotted coronary arteries and thus restore a heartbeat.



## Seattle Fire Department Emergency Response Totals

Category	2011	2012	2013	2014	2015
<b>Basic Life Support (BLS)</b>	45,822	49,696	53,028	56,464	57,876
<b>% Increase/Decrease</b>	0.2%	8%	6.70%	6.5%	2.5%
<b>Advanced Life Support (ALS)</b>	18,773	19,386	18,920	19,256	19,897
<b>% Increase/Decrease</b>	2.1%	3%	-2.40%	1.8%	3.3%
<b>EMS</b>	64,595	69,082	71,948	75,720	77,773
<b>% Increase/Decrease</b>	0.8%	7%	4.10%	5.2%	2.7%
<b>Fire</b>	12,709	12,651	13,388	14,260	15,079
<b>% Increase/Decrease</b>	-9.8%	0%	5.80%	6.5%	5.7%
<b>Service</b>	859	863	1,089	1,330	1,494
<b>% Increase/Decrease</b>	20%	.4%	26.1%	22.1%	12.3%
<b>Total</b>	78,613	82,596	86,425	91,310	94,346
<b>% Increase/Decrease</b>	.5%	5.1%	4.6%	5.7%	3.3%

## Fire Alarm Center

The Fire Alarm Center (FAC) is staffed 24/7 by Seattle Firefighters who have been through more than 1,000 hours of additional training to become certified dispatchers.

The FAC dispatched resources to 94,346 incidents in 2015, up from 89,981 in 2014. Since 2010, the number of incidents has increased by 29.1%. Total calls coming into the FAC, emergency and administrative has increased by 31.1% since 2011. Four additional 911 trunk lines were installed at the FAC to keep pace with the increasing number of calls that are received at any one time.

FAC personnel are working to increase the efficiency of our Emergency Medical Dispatch program by revisiting medical protocols and exploring how the application itself could be changed and/or replaced. Improvements will result in better dispatcher workflow, decreasing the amount of time taken to dispatch appropriate resources to the incident. Dispatchers continue to use our Quality Enhancement Program which allows dispatchers to review each other's calls and learn what is working well or not and make necessary adjustments to more effectively process calls.



## Call Processing Time

(Phone pickup to first unit assigned)

Seattle Fire Department call processing time standard is 60 seconds, 80% of the time.

Year	% of time call processing time standard met
2015	81%
2014	79%
2013	78%
2012	50%
2011	44%

## Call Volume

Seattle Fire Department calls come from two sources: 911 dispatch emergency and administrative phone lines.

Year	Emergency Calls	% Increase	Administrative Calls	Total Calls Received	% Increase
2015	145,189	9.9%	31,578	176,767	10.9%
2014	132,071	4.3%	27,185	159,256	6.0%
2013	126,610	4.2%	23,558	150,168	7.4%
2012	121,485	4.0%	18,216	139,701	3.6%

# Seattle Fire Department Response Standards

The Seattle Fire Department Response Standards specify the minimum criteria needed to effectively and efficiently deliver fire suppression, technical rescue response, and emergency medical services. These Response Standards protect the citizens of Seattle and the occupational safety and health of the Seattle Fire Department employees. National Fire Protection Association Standard 1710– the Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Technical Rescue to the Public by Career Fire Departments, was used as a guideline in the development of the Seattle Fire Department Response Standards.



## EMS Turnout Time

(Time unit assigned to enroute)

Seattle Fire Department turnout time standard is 60 seconds, 90% of the time.

Year	% turnout time met
2015	54%
2014	51%
2013	51%
2012	50%
2011	42%

## Fire Turnout Time

(Time unit assigned to enroute)

Seattle Fire Department turnout time standard is 80 seconds, 90% of the time.

Year	% turnout time met
2015	52%
2014	51%
2013	47%
2012	50%
2011	45%

## First Arriving Engine at Fire

(Enroute to on-scene)

Seattle Fire Department response time standard for the first arriving engine at a fire response is 4 minutes, 90% of the time.

Year	% of time response time objective met
2015	83%
2014	84%
2013	84%
2012	83%
2011	85%

# Seattle Fire Department Response Standards

## Full First Alarm Assignment at Fire

(En route to on-scene)

Seattle Fire Department response time standard for full first alarm assignment (15 firefighters) when responding to a fire is 8 minutes, 90% of the time.

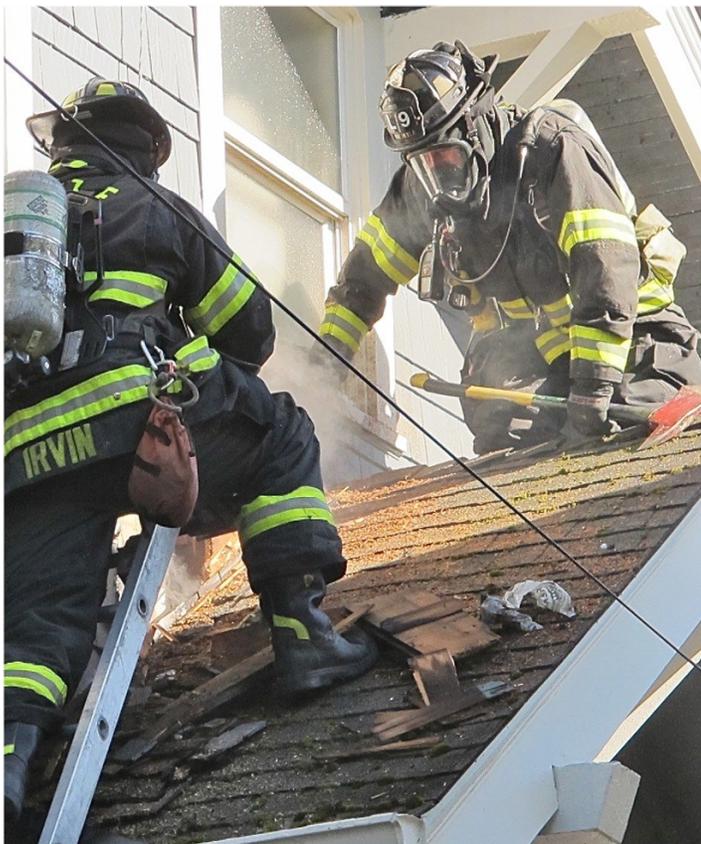
Year	Percentage of time response time objective met
2015	86%
2014	89%
2013	80%
2012	83%
2011	84%

## Basic Life Support Unit

(En route to on-scene)

Seattle Fire Department response time standard for the arrival of the first unit with is 4 minutes, 90% of the time.

Year	Percentage of time response time objective met
2015	84%
2014	84%
2013	85%
2012	85%
2011	86%



## Advanced Life Support Unit

(En route to on-scene)

Seattle Fire Department response time standard for the arrival of an advanced life support unit with two firefighter/paramedics is 8 minutes, 90% of the time.

Year	Percentage of time response time objective met
2015	89%
2014	87%
2013	85%
2012	85%
2011	85%

## Fire Marshal's Office

The Fire Marshal's Office (FMO) is primarily responsible for fire prevention, including the implementation, administration and enforcement of the Seattle Fire Code (SFC). The SFC provides minimum fire and life safety standards for buildings, helping to protect property from the hazards of fire, explosion or dangerous conditions in new and existing buildings and ensure firefighter and emergency responder safety during emergency operations. Because of its importance to both residents and businesses, the Seattle Fire Code is updated in cooperation with a volunteer advisory board that represents the interests of the public, organized labor and local business, industry, and technical trades.

The FMO includes seven units, 2015 accomplishments include:

- ◆ **Plan Review:** Received and reviewed 1746 architectural plans completing 86% within 3 weeks and 1551 fire alarm/fire sprinkler systems, completing 43% of these within four weeks.
- ◆ **Engineering:** Six inspectors inspected 4310 new construction sites, focusing on the installation and inspection of fire protection systems.
- ◆ **Special Events:** Conducted approximately 1696 inspections and issued 1342 special event permits.
- ◆ **Building Inspections/Code Enforcement:** Operations companies are integral in completing building inspections. In 2015, 90% of all scheduled building inspections were completed. Overall, 13,575 inspections were conducted resulting in 1,827 corrections notices.
- ◆ **Special Hazards:** Over 1700 special hazard inspections took place in 2015; 1495 were performed for hazardous materials permits and 291 were storage tank related inspections.
- ◆ **Fire Investigation Unit:** In 2015, the FIU investigated the origin and cause of 304 incidents; of these investigations 174 were determined to be accidental, 100 incendiary/arson, and only 23 were left undetermined.
- ◆ **Public Education:** In 2015, there were 11,859 contacts through community fire safety programs, including 7,209 to historically underserved communities, and 20,173 contacts through children's fire safety programs.

## Station and Facility Upgrades

As part of the 2003 Fire Levy, all of Seattle's fire stations that were built between 1921 and 1975, are receiving or have already received upgrades to make them seismically safe. In 2015:

- ◆ Station 11 received a seismic update and substantial remodeling that included the addition of a decontamination room, a firefighter protective gear storage room, private sleeping spaces and additional capacity for apparatus bay support functions.
- ◆ Station 18 received seismic updates and remodeling that included the additional of private sleeping spaces, decontamination room, larger maintenance room, firefighter protective gear storage room and ADA bathrooms.
- ◆ Station 20 is a brand new station completed in the spring of 2015. This station received a LEED Platinum rating for sustainability.
- ◆ Station 26 received a seismic update and substantial remodeling that included the addition of a decontamination area, a firefighter protective gear storage room, private sleeping spaces and an ADA bathroom.
- ◆ Station 29 received a seismic update and substantial remodeling that included the addition of a decontamination room, a firefighter protective gear storage room, additional living quarters and private sleeping spaces and an ADA bathroom.
- ◆ USAR (Urban Search and Rescue) building was constructed behind the existing Fire Station 28. This building was designed to house tractor-trailer apparatus for the USAR team. The size of the building allows for the protection of other miscellaneous apparatus and flexibility of storage for the Seattle Fire Department.



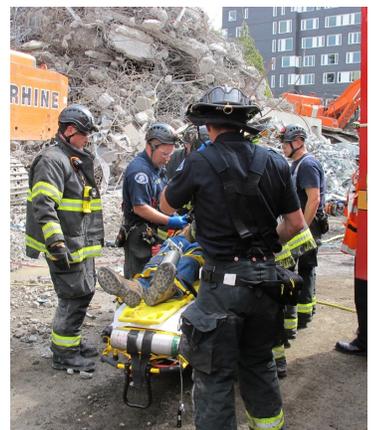
## Chapter 35.103 RCW

Revised Code of Washington Chapter 35.103 was passed into law during the 2005 legislative session (House Bill 1756). This law mandated certain response criteria be established and measured by fire departments across the State of Washington beginning in 2007 with an analysis of responses in 2006. The requirement was passed and is now the law for all substantially career fire departments.

The purpose of this law is to report to the Governing Body of each fire jurisdiction, as well as to the residents of any given area, how the fire department is doing in meeting its established emergency response standards.

These standards take into consideration a number of response types:

- A) Fire Suppression
- B) Emergency Medical Services-Basic Life Support (BLS)
- C) Emergency Medical Services-Advanced Life Support (ALS)
- D) Special Operations ( i.e. Hazardous Materials response and Technical Rescue response)
- E) Aircraft rescue and firefighting
- F) Marine rescue and firefighting
- G) Wildland firefighting



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