

**Kitsap County Fire District  
18/Poulsbo  
*2012 Annual Report  
of Service Level Objectives***



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### **INTRODUCTION:**

The Revised Code of Washington (RCW) 52.33 requires substantially career fire districts to adopt and annually report response time objectives for certain services. The purpose of this legislation is to measure the time it takes for the first emergency response unit to arrive at a fire before flashover or to an emergency medical incident to prevent brain death. This is critical to the survivability of the patient and the reduction of fire losses in the interest of public safety and welfare. It is also critical for emergency responders to arrive as fast as possible to reduce the impact of disabling injuries and disease processes from incidents like head injuries, strokes, heart attacks, or diabetic problems. The District, through a resolution of the Board of Fire Commissioners, has adopted service level objective goals in Policy 1004. This report reviews the District's performance in achieving these goals during year 2012.

### **DEFINITIONS**

**"Advanced life support"**- functional provision of advanced airway management, including intubation, advanced cardiac monitoring, manual defibrillation, establishment and maintenance of intravenous access, and drug therapy.

**"Aircraft rescue and firefighting"** - the firefighting actions taken to rescue persons and to control or extinguish fire involving or adjacent to aircraft on the ground.

**"Area Classification-Suburban"**- refers to an incorporated or unincorporated area with a population density of 1,000 to 2,000 people per square mile. In Growth Management Areas, this designation includes areas classified as urban and urban growth areas.

**"Area Classification-Rural"**- refers to an incorporated or unincorporated area with a population density of less than 1,000 people per square mile.

**"Brain death"**- defined by the American Heart Association as the irreversible death of brain cells that begins four to six minutes after cardiac arrest.

**"Fire department"**- a fire protection district responsible for firefighting actions, emergency medical services, and other special operations in a specified geographic area.

**"Fire suppression"**- the activities involved in controlling and extinguishing fires.

**"First responder"**- the provision of initial assessment and basic first-aid intervention, including cardiac pulmonary resuscitation and automatic external defibrillator capability.

**"Flash-over"**- defined by the National Institute of Standards and Technology as when all combustibles in a room burst into flame and the fire spreads rapidly.

**“Full First Alarm Assignment”**- The total number and type of response units and personnel assigned to mitigate an emergency. The number and types of units is determined by the probable size and complexity of occurrence and a task analysis of the needed resources to mitigate the emergency.

**"Marine rescue and firefighting"**- the firefighting actions taken to prevent, control, or extinguish fire involved in or adjacent to a marine vessel and the rescue actions for occupants using normal and emergency routes for egress.

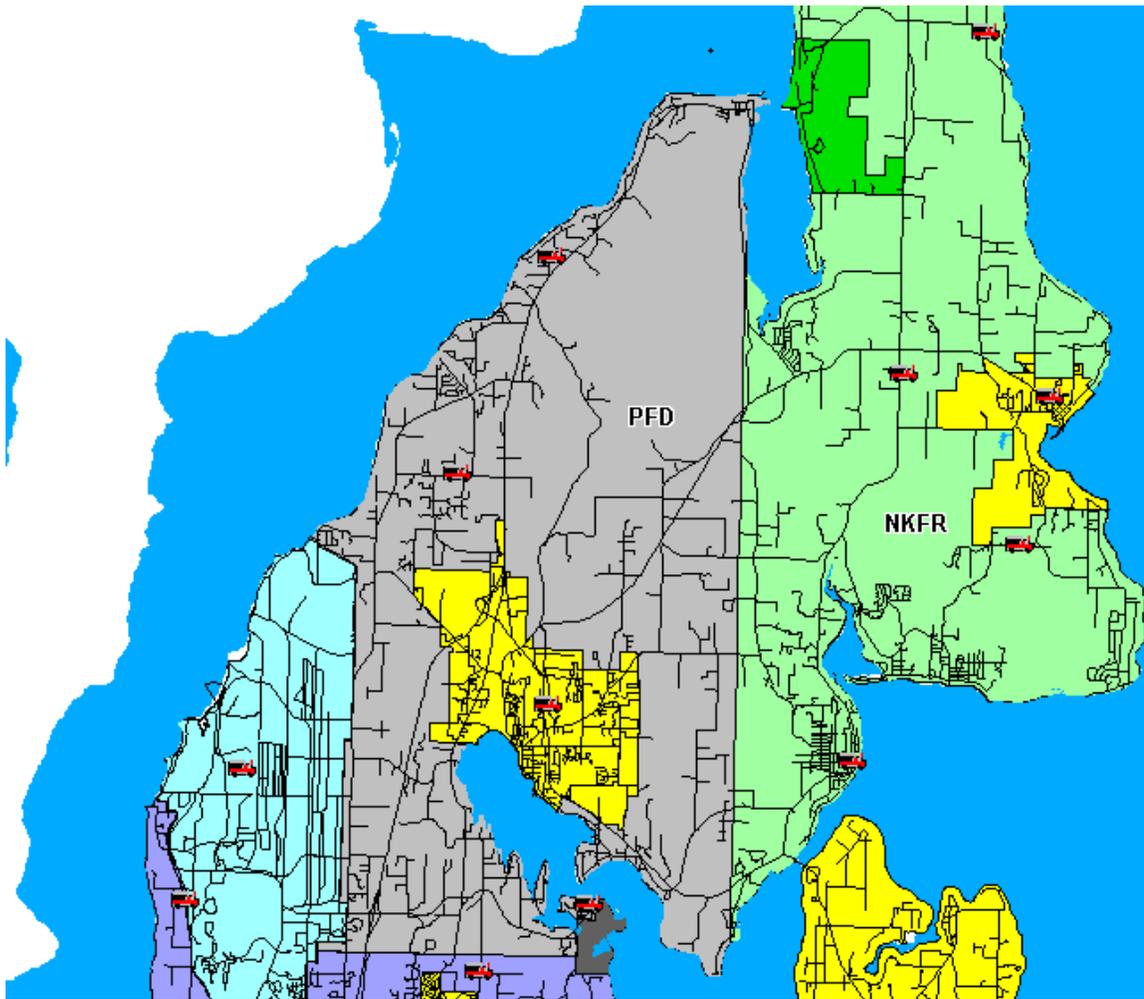
**"Response time"**- the time immediately following the turnout time that begins when units are en route to the emergency incident and ends when units arrive at the scene.

**"Special operations"**- those emergency incidents to which the fire department responds that require specific and advanced training and specialized tools and equipment.

**"Turnout time"**- the time beginning when units receive notification of the emergency to the beginning point of response time.

**District Description:**

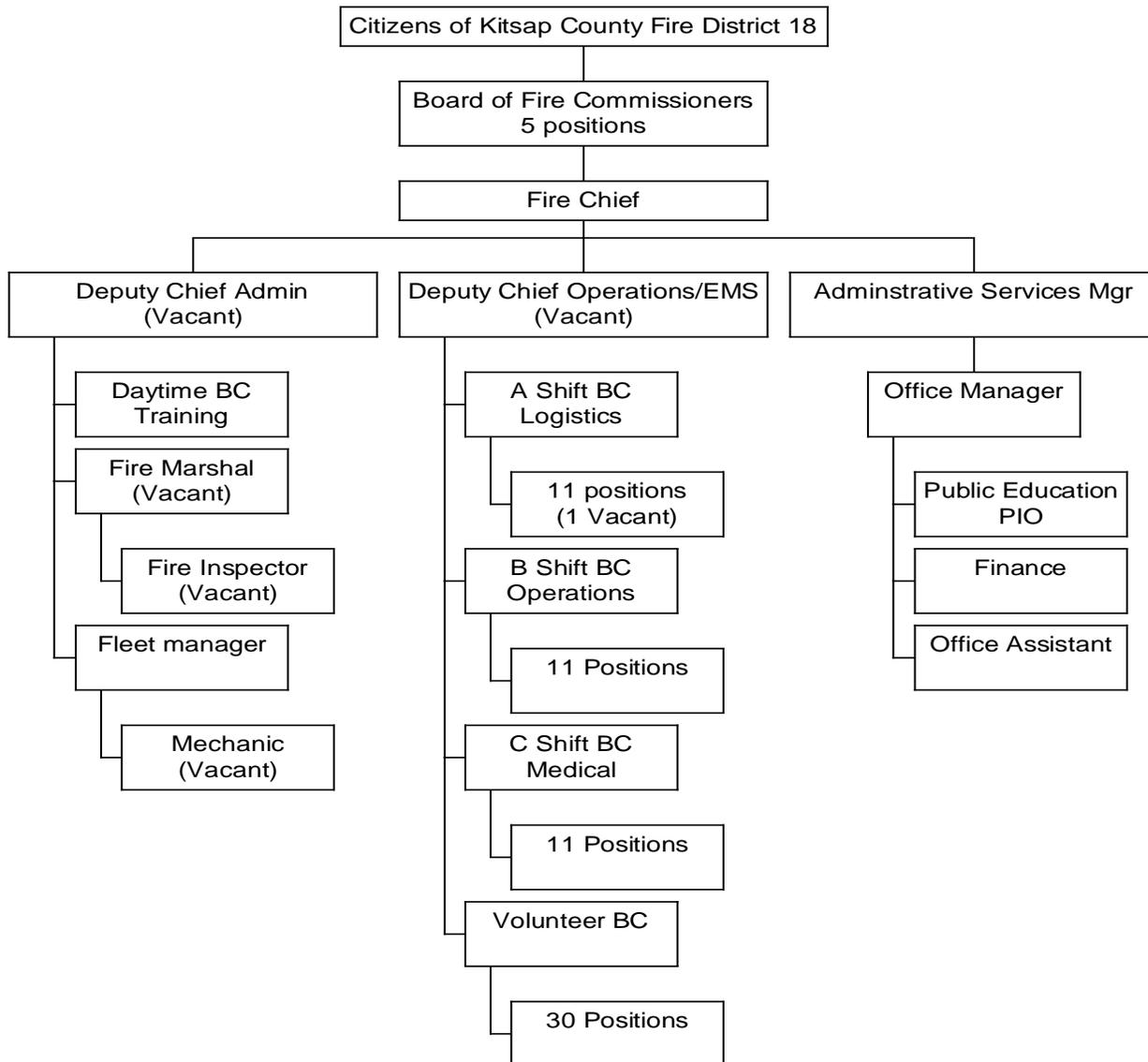
Kitsap County Fire District 18/Poulsbo covers approximately 54 square miles located in the Northwestern portion of Kitsap County on the Kitsap Peninsula. Within the jurisdictional boundaries and response areas, the District provides fire and emergency medical services to approximately 25,000 citizens. The District is bordered by Port Gamble Bay on a portion of the eastern border, the Hood Canal on the north and west boundaries; the southwest is bordered by Liberty Bay and Port Orchard Bay. The District includes approximately 18 miles of tidal waterfront and the City of Poulsbo.



**Legal existence of the fire district:**

The fire district operates under RCW 52 which specifies governance, taxation authority, and other laws of fire district operations. Fire district business is governed by a Board of Commissioners that delegates the management and operations of the district to an appointed Fire Chief (Policy 1002). The Fire Chief receives policy direction from the Board of Fire Commissioners implementing this direction through a chain of command and the positions authorized by the Board of Commissioners. The location of the administrative offices for the fire district is 911 Ne Liberty Road, Poulsbo WA.

## The 2012 organizational structure of the fire department:



**Note:** Kitsap County Fire District 18/Poulsbo Fire is authorized for a total of 49 career positions and is currently operating with a total of 43 career positions.

**Services provided by the Fire District:**

The Fire District is an all hazards response agency which includes ALS and BLS response and transport.

**EMERGENCY RESPONSE BREAKDOWN AND TOTALS IN 2012:**

The general emergency alarm information for emergency response requests in Kitsap County Fire District 18 are outlined below. This information is presented in the same format as the monthly "Operations Report" provided to the Board of Fire Commissioners.

**Incident Breakdown by Type, Station, Totals, and Percentages:**

Incident information is organized on the basis of a station's response area. All alarms are categorized by the type of incident found when responders arrived on the scene of an emergency. This categorization may be different than the incident type initially dispatched.

**Fire-** Includes fires that are extinguished before arrival and gas vapor explosions.

**EMS/Rescue-** Includes medical assist, emergency medical incidents, looking or searching for lost person(s), extrication, water and ice related rescue, standby, and other related events.

**Hazardous Condition-** Includes events dealing with flammable liquid spills, chemical releases, radioactive releases, electrical wiring issues, biological hazards, and explosives and bomb removal.

**Service Calls-** Includes events dealing with persons in distress like ring removal and locked vehicles, water problems, smoke removal, animal problems or rescue, public agency assists, unauthorized burning, and cover assignments and move ups.

**Good Intent-** Includes cancelled en-route, wrong locations, authorized controlled burning, steam or gas mistaken for smoke, EMS events where a non-fire service agency transported, and hazmat release investigation-nothing found.

**False Call-** Includes fire alarm activations, bomb scares, system malfunctions, sprinkler system activation with no fire, and biohazard scare.

**Other-** Includes severe weather, and natural disasters and citizen complaints.

### 2012 Yearly Operations Incident Review

INCIDENT BREAKDOWN BY TYPE, BY STATION, TOTALS AND PERCENTAGES:													
Station - 71		Station - 72		Station - 73		Station - 77		Totals		%			
Fire Calls	27	Fire Calls	12	Fire Calls	2	Fire Calls	17	58		2%			
EMS/Rescue	1465	EMS/Rescue	172	EMS/Rescue	90	EMS/Rescue	500	2227		74%			
Hazardous Condition	40	Hazardous Condition	9	Hazardous Condition	11	Hazardous Condition	25	85		3%			
Service Call	162	Service Call	30	Service Call	8	Service Call	33	233		8%			
Good Intent	119	Good Intent	26	Good Intent	33	Good Intent	79	257		9%			
False Call	81	False Call	11	False Call	4	False Call	48	144		5%			
Blank/Invalid/Other	6	Blank/Invalid/Other	2	Blank/Invalid/Other	1	Blank/Invalid/Other	3	12		0%			
<b>First Due:</b>	<b>1900</b>	<b>63%</b>	<b>First Due:</b>	<b>##</b>	<b>9%</b>	<b>First Due:</b>	<b>149</b>	<b>5%</b>	<b>First Due:</b>	<b>705</b>	<b>23%</b>	<b>3016</b>	<b>100%</b>
STATION UNIT ACTIVITY:													
Station - 71		Station - 72		Station - 73		Station - 77		Totals					
Aid-71	119	Aid-72	##	Aid-73	10	Aid-77	102	636					
Medic-71	1581	Medic-72	68			Medic-77	1133	2782					
Engine-71	2286	Engine-72	54	Engine-73	2	Engine-77	212	2554					
Tender-71	53					Tender-77	23	76					
Marine-71	0							0					
D/C 71	442							442					
Brush 71	1							1					
<b>Totals</b>	<b>4482</b>	<b>68%</b>	<b>Totals</b>	<b>587</b>	<b>9%</b>	<b>Totals</b>	<b>12</b>	<b>0%</b>	<b>Totals</b>	<b>1470</b>	<b>22%</b>	<b>6551</b>	
TOTAL CALL BREAKDOWN EMS C/ PRIORITY EVENTS:						MUTUAL-AID BREAKDOWN:							
EMS Breakdown			ALS/BLS			90% Fractal Turnout and Travel			Mutual - Aid				
BLS	353	41%				Rural	2:20	10:21	Central Kitsap Fire	41	16	57	
ALS	1366	59%				Suburban	2:29	5:41	Bainbridge Island Fire	8	15	23	
<b>Total</b>	<b>2319</b>	<b>100%</b>							North Kitsap Fire	114	101	215	
TRANSPORTS:			FIRE			90% Fractal Turnout and Travel			Navy Region NW	48	11	59	
BLS	766	46%				Rural	2:58	13:31	Port Ludlow Fire	6	2	8	
ALS	896	54%				Suburban	2:59	9:31					
<b>Total</b>	<b>1662</b>	<b>100%</b>							<b>Total</b>	<b>217</b>	<b>145</b>	<b>362</b>	
Previous Year Tx	1577									<b>60%</b>	<b>##</b>	<b>100%</b>	

### 2011 Yearly Operations Incident Review

INCIDENT BREAKDOWN BY TYPE, BY STATION, TOTALS AND PERCENTAGES:													
Station - 71		Station - 72		Station - 73		Station - 77		Totals		%			
Fire Calls	30	Fire Calls	6	Fire Calls	11	Fire Calls	17	64		2%			
EMS/Rescue	1336	EMS/Rescue	152	EMS/Rescue	134	EMS/Rescue	406	2028		66%			
Hazardous Condition	48	Hazardous Condition	13	Hazardous Condition	2	Hazardous Condition	20	83		3%			
Service Call	232	Service Call	36	Service Call	24	Service Call	69	361		12%			
Good Intent	195	Good Intent	34	Good Intent	48	Good Intent	92	369		12%			
False Call	90	False Call	11	False Call	7	False Call	35	143		5%			
Blank/Invalid/Other	10	Blank/Invalid/Other	1	Blank/Invalid/Other	5	Blank/Invalid/Other	3	19		1%			
<b>First Due:</b>	<b>1941</b>	<b>63%</b>	<b>First Due:</b>	<b>253</b>	<b>8%</b>	<b>First Due:</b>	<b>231</b>	<b>8%</b>	<b>First Due:</b>	<b>642</b>	<b>21%</b>	<b>3067</b>	<b>100%</b>
STATION UNIT ACTIVITY:													
Station - 71		Station - 72		Station - 73		Station - 77		Totals					
Aid-71	119	Aid-72	400	Aid-73	3	Aid-77	113	635					
Medic-71	1558	Medic-72	10			Medic-77	1096	2664					
Engine-71	2168	Engine-72	50	Engine-73	5	Engine-77	242	2465					
Tender-71	50					Tender-77	24	74					
Marine-71	0							0					
D/C 71	419							419					
Brush 71	0							0					
<b>Totals</b>	<b>4314</b>	<b>69%</b>	<b>Totals</b>	<b>460</b>	<b>7%</b>	<b>Totals</b>	<b>8</b>	<b>0%</b>	<b>Totals</b>	<b>1475</b>	<b>24%</b>	<b>6257</b>	
TOTAL CALL BREAKDOWN EMS ( PRIORITY EVENTS:						MUTUAL-AID BREAKDOWN:							
EMS Breakdown			Suburban			90% Fractal Turnout and Travel			Mutual - Aid				
BLS	1104	45%	Priority 1& 2 Events	1321		2:16	7:31	Central Kitsap Fire	86	8	94		
ALS	1334	55%				Mean Average	1:08	3:25	Bainbridge Island Fire	14	43	57	
<b>Total</b>	<b>2438</b>	<b>100%</b>							North Kitsap Fire	160	190	350	
TRANSPORTS:			Rural			90% Fractal Turnout and Travel			Navy Region NW	95	42	137	
BLS	782	49%	Priority 1& 2 Events	1060		2:16	11:56	Port Ludlow Fire	5	3	8		
ALS	802	51%				Mean Average	1:15	6:51					
<b>Total</b>	<b>1584</b>	<b>100%</b>							<b>Total</b>	<b>360</b>	<b>286</b>	<b>646</b>	
Previous Year Tx	1567									<b>56%</b>	<b>44%</b>	<b>100%</b>	
Total Dollar Loss			\$2,197,130.00										

## **TIME- THE CRITICAL FACTOR**

For emergency response to be effective, interventions must occur within identified time frames in order to create the most opportunity to save lives and property. Generally speaking, the faster the intervention the more positive the outcome. The arrival of first responders with automatic external defibrillator capability before the onset of brain death or the arrival of adequate fire suppression resources before flashover are time critical events during the mitigation of an emergency, which is in the best interest of the public (RCW 52.33.010). The arrival time of properly trained and equipped personnel is the single most significant factor in reducing the impact of serious emergencies.

**Medical Emergencies / Cardiac arrest:** According to the American Heart Association, irreversible brain death begins within four to six minutes after cardiac arrest.

**Fire Suppression / Flashover:** The national average for a fire to generate enough heat to ignite the contents of a room and cause flashover is approximately eight minutes. When a flashover occurs, the fire rapidly spreads into adjoining rooms which can cause occupant injury and/or deaths to increase dramatically. In addition, the property dollar-loss may increase due to the increased fire spread.

## **CASCADE OF EVENTS**

To determine response effectiveness: the overall “Response Time” is divided into incremental categories to identify areas where performance can be enhanced. Through critical analysis evaluating the Cascade of Events, an Action Plan (page 12) *confirm* can be implemented to improve overall response times.

The following time-stamps are used to analyze the efficiency and effectiveness of the 9-1-1 dispatch center (Cencom) and Kitsap County Fire District 18/Poulsbo’s emergency response:

- The discovery of the emergency
- First ring to the 9-1-1 dispatch center
- Phone picked up by the dispatch center
- Dispatch center enters the event into the system
- Information is dispatched to a fire station via radio and/or printer
  - **Time Stamp-Dispatch Time**
- Apparatus initiates response, leaving their current location to the emergency
  - **Time Stamp-Turnout Time**
- First-due unit arrives on the scene
  - **Time Stamp-Response Time**
- Subsequent units arrive on the scene
  - **Time Stamp-Full First Alarm Assignment Response Time**
- Emergency is declared under control and situation returned to a state of normalcy

- Units leave scene and become available for next alarm

**SERVICE LEVEL RESPONSE REPORTING**

This report reflects the performance of the District in relation to its service level objectives as directed in Policy 1004. All time based metrics are reported utilizing a 90% fractal measure; “N/A” indicates there were no calls of this nature in 2012.

	<u>Goal</u>	<u>Actual</u>
Turnout time:		
Priority 1 and 2 events	2 min	2:23 min
Fire events	2 min	2:22 min
Emergency Medical	1.5 min	2:11 min

Response time for the arrival of the **first arriving unit** for all priority 1 and 2 events.

Suburban	8 min	7:35 min
Rural	11 min	12:04 min

Response time for the arrival of the **first arriving Engine Company** at a fire suppression incident to include structural, wild-land, and vehicle.

Suburban	8 min	6:46 min
Rural	11 min	11:14min

Response time for the arrival of a **full first alarm assignment** at a fire suppression incident.

Suburban	14 min	13:17
Rural	18 min	16:52

Response time for the arrival of a unit with **first responder or higher level** capability at an emergency medical incident.

Suburban	8 min	7:27
Rural	11 min	12:31

Response time for the arrival of **an advanced life support unit** at an emergency medical incident.

Suburban	8 min	9:36
Rural	11 min	13:03

Response time for the arrival of the **first arriving unit** at a **special operations incident**.

Suburban	8 min	N/A
Rural	11 min	N/A

Response time for the arrival of a **technician level team** at a **special operations incident.**

Suburban	2 hours	N/A
Rural	2 hours	N/A

Response time for the arrival of the **first arriving unit** at a **marine rescue or firefighting incident.**

Suburban	8 min	N/A
Rural	11 min	N/A

Response time for the arrival of the **first arriving unit** at an **aircraft rescue and/or firefighting incident.**

Suburban	8 min	N/A
Rural	11 min	N/A

Response time for the arrival of the **first arriving unit** at a **hazardous materials incident.**

Suburban	8 min	N/A
Rural	11 min	N/A

Response time for the arrival of a **technician level team** at a **hazardous materials incident.**

Suburban	2 hours	N/A
Rural	2 hours	N/A

### **2012 RESPONSE DATA SUMMARY**

<b><i>Turnout Time</i></b>	<b>Adopted</b>	<b>2012</b>	<b>Results</b>	<b>2011</b>	<b>2010</b>
Priority 1&2 Events	2:00	2:20	Not Met	2:19	2:33
Fire	2:00	2:41	Not Met	2:48	2:58

Medical	1:30	2:15	Not Met	2:26	2:15
<b><i>Response Time</i></b>	<b>Adopted</b>	<b>2012</b>	<b>Results</b>	<b>2011</b>	<b>2010</b>
<b><i>Suburban:</i></b>					
First Unit- Priority 1&2 Events	8:00	7:35	Passed	6:45	7:17
First Engine- Fire Event	8:00	6:46	Passed	6:44	3:18
Full First Alarm Assignment	14:00	13:17	Passed	8:37	12:36
BLS Unit- Medical Event	8:00	7:27	Passed	7:44	7:21
ALS Unit- Medical Event	8:00	7:27	Passed	7:40	6:51
First Unit- Special Ops	8:00	N/A	N/A	N/A	N/A
Tech. Team- Special Ops	2 hr	N/A	N/A	N/A	N/A
First Unit- Marine Event	8:00	N/A	N/A	N/A	N/A
First Unit- Aircraft Event	8:00	N/A	Passed	4:16	Passed
Tech. Team- Haz-Mat	2 hrs	N/A	N/A	N/A	N/A
<b><i>Rural:</i></b>					
First Unit- Priority 1&2 Events	11:00	12:04	Not Met	11:26	12:42
First Engine- Fire Event	11:00	11:14	Not met	13:00	6:34
Full First Alarm Assignment	18:00	16:52	Passed	15:41	17:02
BLS Unit- Medical Event	11:00	12:31	Not met	11:26	12:42
ALS Unit- Medical Event	11:00	11:42	Not met	12:00	11:51
First Unit- Special Ops	11:00	N/A	N/A	N/A	N/A
Tech. Team- Special Ops	2 Hrs	N/A	N/A	N/A	N/A
First Unit- Marine Event	11:00	N/A	N/A	N/A	8:53
First Unit- Aircraft Event	11:00	N/A	N/A	N/A	N/A
First Unit at a Haz-Mat	11:00	N/A	N/A	N/A	N/A
Tech.Team- Haz-Mat	2 Hrs	N/A	N/A	N/A	N/A

**Note:**

In the building of this report it was discovered that our data collection systems are identifying areas of our Fire District incorrectly. Suburban and rural areas are currently intermixed and there is no wilderness designation for DNR land. In addition we discovered that our Duty Chief was not always being included in turnout, first unit on scene, initial attack force and Effective response force times. The times in this report therefore do not accurately reflect the current response.

**PREDICTABLE CONSEQUENCES**

The arrival of first responders with automatic external defibrillator capability before the onset of brain death and the arrival of adequate fire suppression resources before flashover are both time critical events during the mitigation of an emergency, and are in the best interest of the public (RCW 52.33.010).

Response analysis and literature suggests that the arrival time of properly trained and equipped personnel is the single most significant factor in reducing the impact of serious emergencies.

From an analysis of the District's annual reporting, the service levels and initial unit response times are beyond the six minutes for brain death and the eight minutes for flashover when utilizing the 90% fractal method. A conclusion may be drawn that a percentage of these alarms are not meeting national response recommendations. The data also reflects an extended time for a full first-alarm assignment to arrive at structure fires within recommended guidelines.

For those events with extended response times, there is an increased risk to life and property loss. Both fire and emergency medical response time deficiencies in the wrong circumstance could lead to the following results:

- *An increased risk to life safety for both the citizens and firefighters.*
- *Inability to intervene with Basic Life Support (BLS) and/or Advanced Life Support (ALS) measures prior to brain death.*
- *Inability to safely perform rescue and interior fire attack / suppression at industrial, commercial and residential structure fires prior to flashover.*
- *Potentially larger loss for industrial, commercial and residential structure fires.*

The District's chief officers and elected officials are reviewing methods to improve factors that reduce all stages of the Cascade of Events such as:

- *Analyzing trends for high call-volume areas.*
- *Reduced times for call answering and information gathering at the 9-1-1 dispatch center through cooperation with 9-1-1 officials at CenCom.*
- *Automatic mutual-aid agreements with local jurisdictions.*
- *Reduced turnout times for firefighters.*
- *Analyzing trends for locations of emergencies.*
- *Review of community growth patterns for future station locations.*

### **ACTION PLAN-2013**

- *Rebuild the reporting collection database(s) to reflect current Fire Department response, staffing and dispatch.*
- *Redefine the geographic boundaries into Suburban, Rural and Wilderness areas that reflect the current population densities of the fire district.*

- *Rebuild Emergency Response Zones with the goal of closest unit response and to simplify updates and data collection.*
- *Continued work with 9-1-1 (CenCom) officials to reduce call answering and information gathering times.*
- *Work with state and local officials regarding roads and access issues.*
- *Conduct an analysis of station response areas reflecting the closest station to respond to an incident with a focus on the border of Station 71 and 77 to ensure reliability data is accurately portrayed.*

### **CLOSING STATEMENT**

This report is intended to keep the Board of Fire Commissioners and the citizens informed of the District's ability to meet its identified service level delivery objectives as well as to identify limitations for fire and EMS responses.

This annual report will be used to facilitate improvements within the confines of the revenue given to us by the public. We are committed to provide accurate and revealing data to keep both the Board of Commissioners and citizens we serve informed.

Respectfully submitted,

Jeffery Griffin, Fire Chief  
Kitsap County Fire District 18/Poulsbo