



# KIRKLAND FIRE DEPARTMENT

2011 ANNUAL REPORT





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# MESSAGE FROM THE CHIEF



The Kirkland Fire Department's value to our community is measured by the service we provide. Twenty four hours of each day, the women and men you have entrusted strive to provide the best fire, medical and rescue service possible to the citizens of Kirkland.

I am proud to present the Kirkland Fire Department 2011 Annual Report. This report is one way we show our commitment to community involvement.

*-J Kevin Nalder, Director Fire and Building Department*

## MISSION

The Kirkland Fire Department is committed to the protection of life and the preservation of property and the environment from the adverse effects of fire, medical, and all hazardous conditions through sustained training, progressive education, proactive prevention and a dedicated diligence to provide the highest level of customer service to our community.

### CORE VALUES (SPIRIT)

- Service
- Professionalism
- Integrity
- Respect
- Innovation
- Trust

### OPERATING PRINCIPLES (TIP)

- Teamwork
- Integrity
- Positioning the Department for the future

# DEPARTMENT INFORMATION



**The first paid Fire Chief was hired in 1928 and the first paid firefighters for the City were hired in 1970.**

The City of Kirkland has provided fire service to King County Fire Protection District #41 by a contract agreement (Kirkland Municipal Code 3.24.010) since November 1969. As of June 1st, 2011 the City of Kirkland annexed all of Fire District 41 and a small portion of Fire District 34 and 36.

**The services provided to the community by the Fire Department include:**

- Fire and emergency medical response (all response personnel are certified EMT)
- Rescue operations including vehicle extrication and technical rescues including confined space, high angle, and trench
- Special operations including urban-wildland interface, fire fighting and near shore water rescue
- Automatic aid to surrounding jurisdictions
- Fire Prevention and permits
- Fire Investigation
- City Emergency Management

**The Regional services provided to the community in partnership with neighboring Fire Departments include:**

- North East King County Regional Public Safety Communication Agency (NORCOM) [www.norcom.org](http://www.norcom.org)
- Eastside HazMat Team (Hazardous Materials Response)
- Medic Response
- Training Division

The City of Kirkland Fire Department has existed within the State of Washington since 1890.

The Kirkland Fire Department is legally established as a department through RCW 35A.01.01 and RCW 35A.11.020 and Kirkland Municipal Code 3.16.037.



# KFD PROFILE

## PRE-ANNEXATION (JAN 1 – MAY 31)

- Emergency response personnel – 82 line personnel (not including Training, Admin or Prevention)
- Every day minimum on-duty strength – 18
- Prevention personal – 3
- Training Officers – 2
- Emergency Medical Officer – 1 (starting 2/1/11)
- Non-Uniformed (Civilian) Personnel – 4 (including 1 FD 41 Admin. Support position)
- City Emergency Management – 1 ( ½ grant supported ½ temporary funded)
- Command staff – 3

## NEW CITY STARTING JUNE 1, 2011 (AFTER ANNEXATION)

- Emergency response personnel – 88 Line personnel (not including Training, Admin or Prevention)
- Every day minimum on-duty strength – 19
- Prevention personnel – 4
- Training Officers – 2
- Emergency Medical Officer – 1
- Non-Uniformed (Civilian) Personnel – 4 (1 Admin. Support temporary until 12/31/11)
- City Emergency Management – 1 ( ½ grant supported ½ temporary funded)
- Command staff – 3

## MINIMUM STAFFING OF FOR EMERGENCY RESPONSE

- Engine company = 3 crew members
- Aid car = 2 EMT crew members
- Ladder company = 3 crew members
- Safe fire scene staffing = 18
- Battalion Chief = 1

## MINIMUM FIRE STATION STAFFING

- Forbes Creek Station 21 = 3 crew members, 1 aid car, 1 engine  
Pre-Annexation = 1 Battalion Chief
- Houghton Station 22 = 3 crew members, 1 aid car, 1 engine
- Finn Hill Station 24 = EMT Volunteers, minimum 2, 7pm – 5:30am
- Juanita Station 25 = 3 crew members, 1 aid car, 1 engine
- Rose Hill Station 26 = Pre-Annexation = 3 crew members, 1 aid car, 1 Ladder  
After Annexation = 3 crew members, 1 aid car, 1 engine 1 Battalion Chief
- Totem Lake Station 27 = Pre-Annexation = 5 crew members 2 aid cars, 1 engine  
After Annexation = 6 crew members, 2 aid cars, 1 engine, 1 Ladder

# CITY PROFILE



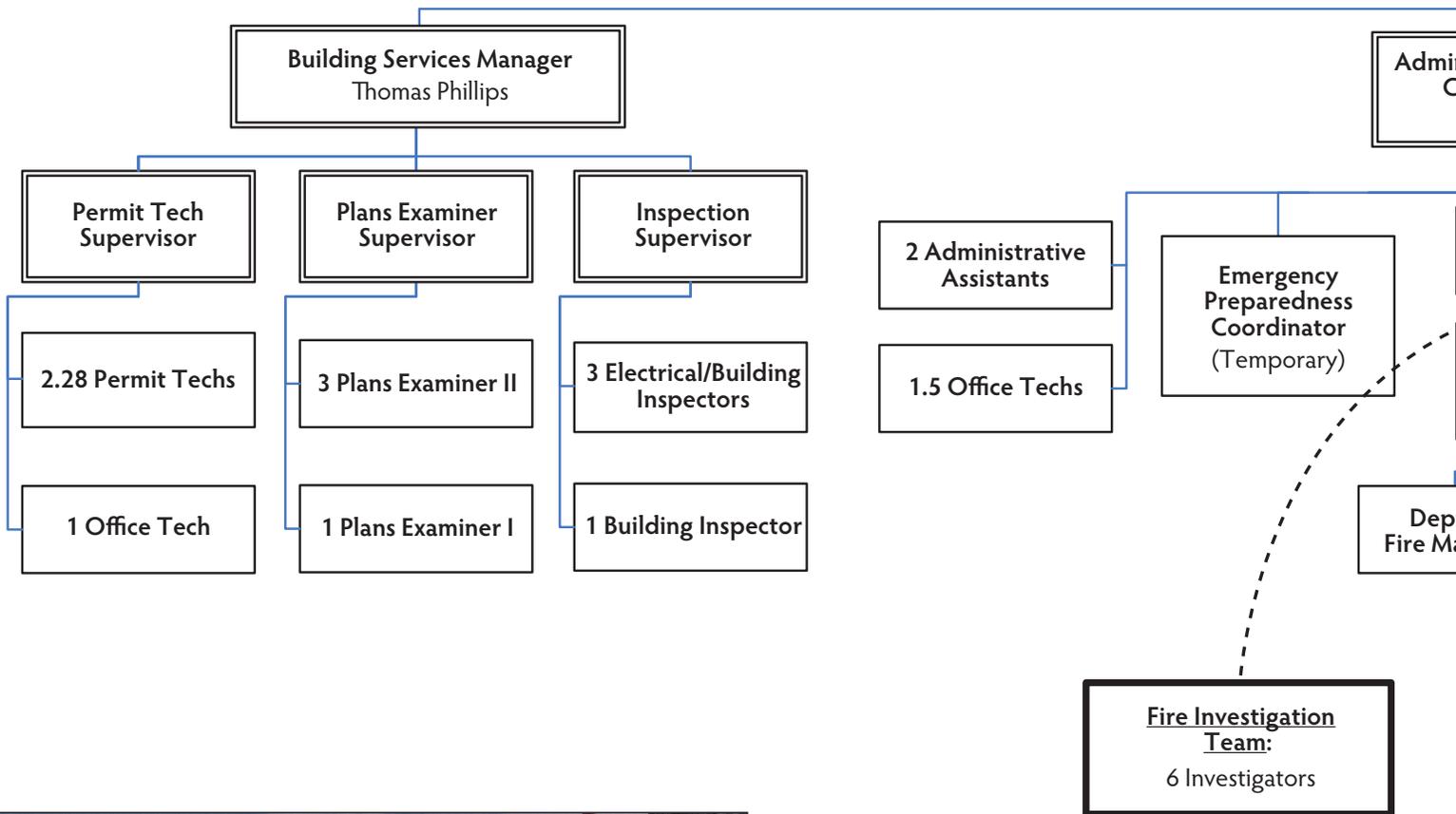
Founded	1888
Incorporated	1905
Consolidated with Town of Houghton	1968
Annexation of Finn Hill, North Juanita & Kingsgate**	June 1, 2011
Population*	
Pre-Annexation	48,787
Post-Annexation**	80,505
Land Area	
Pre-Annexation	11 square miles
Post-Annexation**	18 square miles
Fire Department Grading Class	4
Total City Budget (2011-2012 Final Budget)	\$449,372,936
City Operating Budget (2011-2012 Final Budget)	\$231,510,089
Full-Time City Employees	
Pre-Annexation	461.43 FTE
Post-Annexation**	541.93 FTE

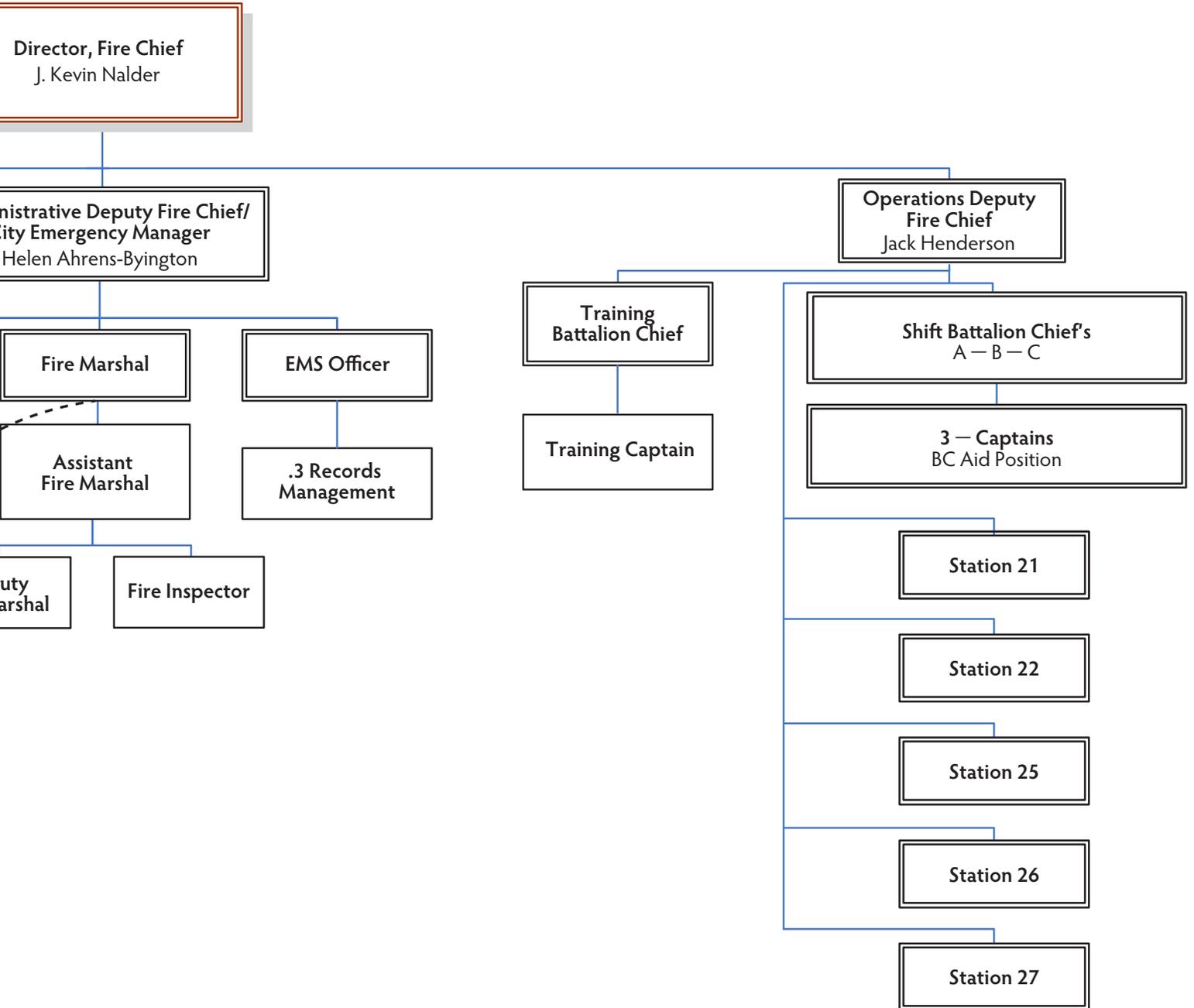


# FIRE & BUILDING ORG CHART

## City of Kirkland

Fire & Building Department · 2011





# BUDGET

## EXPENDITURES:

Department	Total Budget	Personnel	Internal Charges	Other
Fire Operations	\$15,099,690.00	\$12,241,370.00	\$1,810,584.00	\$1,047,736.00
Training	\$547,632.00	\$438,788.00	\$31,935.00	\$76,909.00
Administration	\$1,553,678.00	\$990,961.00	\$468,946.00	\$93,771.00
Fire Prevention	\$660,955.00	\$523,140.00	\$61,478.00	\$76,337.00
Office of Emergency Management	\$213,754.00	\$126,981.00	\$9,509.00	\$77,264.00
<b>Total</b>	<b>\$ 18,075,709.00</b>	<b>\$14,321,240.00</b>	<b>\$2,382,452.00</b>	<b>\$1,372,017.00</b>

\*Personnel includes benefits, overtime, and hourly wages.

\*Internal charges include fleet, Information Technology, liability insurance and facility charges.

\*Other includes all equipment and operating supplies needed for the fire department: Items like safety gear, uniforms, medical supplies, equipment and tools for the stations and the apparatus, office, supplies, printing and training.

## REVENUE:

EMS Transport	\$556,876.00
BLS-EMS Levy	\$840,146.00
Fire Permits	\$56,749.75
Grants	\$201,582.00
<b>Total</b>	<b>\$1,655,353.75</b>



# TRANSPORT FEE



On March 1, 2011 the Kirkland Fire Department began its Basic Life Support (BLS) Transport User Fee Program. The Program was established to create a sustainable revenue source to support essential emergency medical services. Revenue from the BLS transport user fee has helped cover the cost of providing emergency medical service to the Kirkland community. Without this new revenue the Fire Department would have had to reduce service levels. The user fees are currently used to maintain service levels; in the future, fees will be used to improve service, reduce response times, and provide greater EMS resources to the community.

<b>2011 TRANSPORTS</b> (March - December) Net Revenue = \$521,144		
<b>TRANSPORTS BILLED</b>		
Resident	1459	74%
Non-Resident	360	18%
Employee at Work	34	2%
	<u>1853</u>	
<b>TRANSPORT FROM OTHER JURISDICTIONS</b>		
	129	6%
	<u>Total</u>	<u>1982</u>

# SERVICE RECOGNITION AWARDS

The Kirkland Fire and Building Department recognizes those employees who have performed above the call of duty in an outstanding manner consistently, shown initiative and made significant contributions to our community and organization during the past year.

Recipients are nominated by their peers and based on the department's core values and operating principles.

## Recipients of the 2011 Service Recognition Awards:

- Civilian Employee of the Year Mary Isgrig
- Rookie of the Year Tyrel Koistinen
- Firefighter of the Year Justin Becker
- Officer of the Year Bill Hoover
- Chief of the Year Helen Ahrens-Byington

# RETIREMENT, PROMOTIONS, NEW HIRES

## 2011 RETIREMENTS:

Joe Rexach: hired (5/11/87) Served 24 years.

## 2011 PROMOTIONS:

Promoted to Captain:

2/01/11	Jung, Mark
6/01/11	Buenting, Mark
6/01/11	Hoover, Bill
6/01/11	Picinich, Greg
6/01/11	Henderson, Ken

Promoted to Lieutenant:

6/01/11	Hani, Hobart
6/01/11	Bodenman, Joel
6/01/11	Scott, Randy
6/01/11	Rogers, Chris
6/01/11	Buchanan, Seth
6/01/11	Higgins, Kyle
6/01/11	Henderson, Bill

## LATERAL NEW HIRES (from Woodinville due to Annexation)

- Brent Anderson
- Christopher Bailey
- Jeffrey Childs
- Jesse Disch
- Andrew Heichel
- Ryan Reidl

## NEW HIRES:

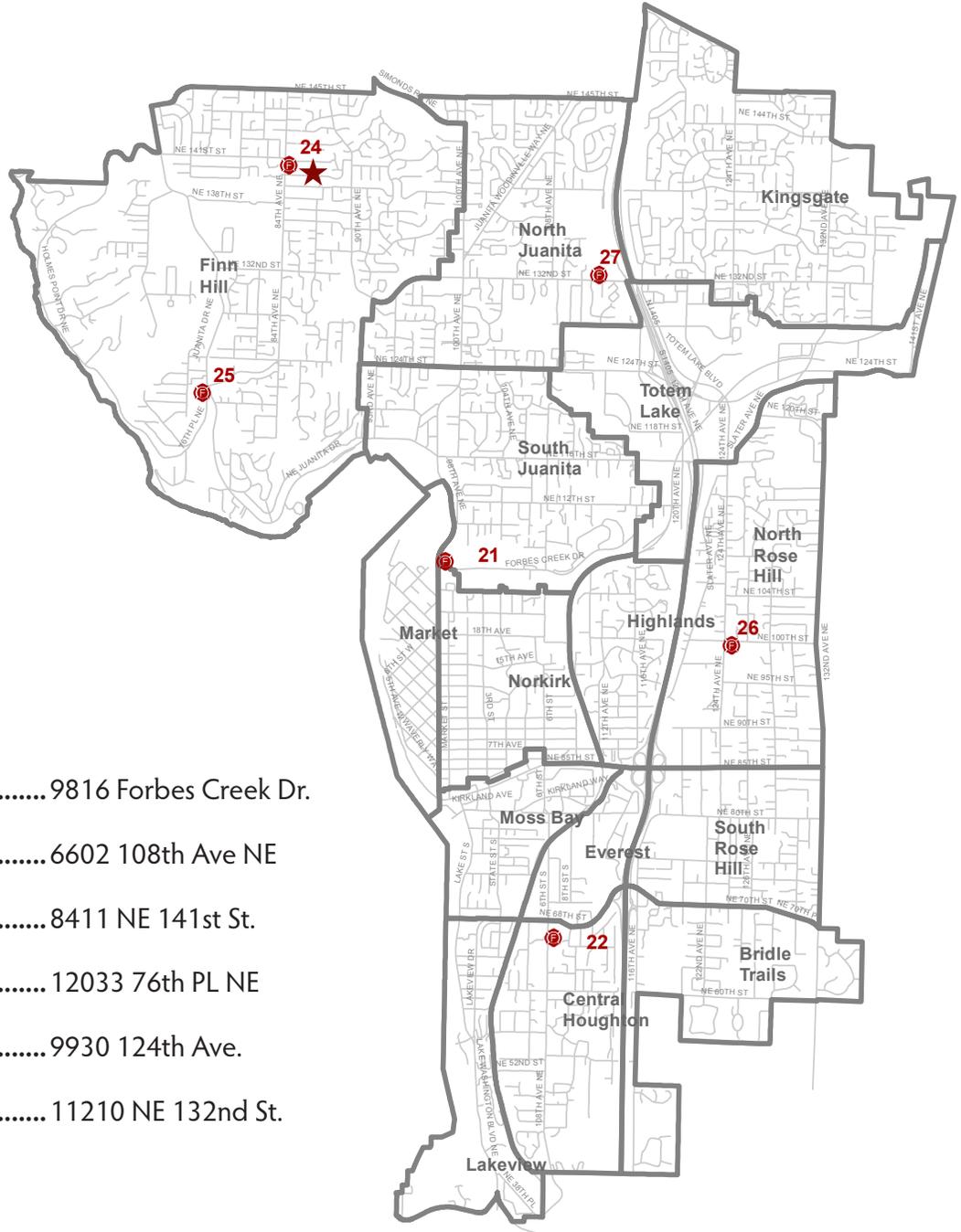
- Tyrel Koistinen
- Evan Hurley
- Matt Brummitt
- Brett Christiansen
- Jesse Martindale

# STATIONS



## KIRKLAND FIRE DEPARTMENT

123 5th Avenue  
 Kirkland, WA 98033  
 425-587-3650



### STATIONS:

- ②① Forbes Creek ..... 9816 Forbes Creek Dr.
- ②② Houghton ..... 6602 108th Ave NE
- ★ ②④ North Finn Hill ..... 8411 NE 141st St.
- ②⑤ Juanita ..... 12033 76th PL NE
- ②⑥ North Rose Hill ..... 9930 124th Ave.
- ②⑦ Totem Lake ..... 11210 NE 132nd St.

★ Station 24 is volunteer EMT staffing; evening only.

# APPARATUS





# COMMUNITY RISK REDUCTION

## Fire Prevention Bureau, Community Risk Reduction

The Kirkland Bureau of Fire Prevention currently has 4 staff members: The Fire Marshal, Assistant Fire Marshal, Deputy Fire Marshal, and Fire Inspector/Investigator.

The Fire Investigation Team is also part of the Fire Prevention Bureau. The Fire Investigation Team consists of 7 investigators (6 from the Fire Department and 2 from the Police Department).

Our mission is to create a safe environment for our residents and our business community. We strive to prevent injury and loss of life and property through the following activities:

- Plan review and permit issuance for new construction and fire protection systems
- Inspections of new construction and fire protection systems
- Issuance of operational permits for activities regulated by the International Fire Code
- Annual fire safety inspections in existing buildings
- Investigation of fires to determine origin and cause
- Code and policy development and interpretation
- Publication of operating policies and fire safety information bulletins

## Fire Plan Review of New Construction

Fire Prevention personnel check plans to determine compliance with the International Fire and Building Codes as well as all local codes, ordinances, standards and regulations. This includes plan review of building sites for adequate fire department access, hydrant locations, and adequate fire flow, as well as fire protection systems such as fire sprinkler and alarm systems.

- \* In 2011, conducted plan review on approximately 200 fire system permits. In addition, The Bureau conducted plan review on approximately 100 new homes; 50 additions to existing homes; 3 new schools; 3 new commercial buildings; 33 grading permits; 15 short plats; and 30 tenant improvement permits.

## Fire Inspections of New Construction

Once permits are issued, fire prevention personnel perform inspections to ensure that the required fire protection features are installed correctly and as designed.

- \* In 2011, conducted approximately 350 inspections associated with fire systems.

## Issuance of Operational (IFC) Permits

Some activities have the potential to create a hazard to the public, and therefore require an Operational Permit to be issued. Typically, operational permits are required for fireworks displays, tents, bonfires, and other hazardous activities.

- \* In 2011, conducted approximately 50 inspections associated with operational permits.

## Annual Fire Safety Inspection Program

Fire Prevention Bureau personnel are responsible for managing the annual fire safety inspections program for existing buildings. You will see firefighters as well as fire inspectors conducting these inspections, in order to discover and correct any conditions liable to cause a fire or life safety hazard.

- \* In 2011, fire inspection personnel and firefighters conducted approximately 680 annual fire inspections on existing buildings.



## Fire Investigations

The Fire Prevention Bureau is mandated to conduct fire investigations to determine origin and cause of all fires which occur within the City of Kirkland. Fire Investigators work closely with the Kirkland Police Department in the event that a fire is suspicious or is determined to be arson.

- \* In 2011, Kirkland fire department personnel investigated approximately 100 fires; 66 involved financial loss; 26 were forwarded to Fire Investigators; and 22 were likely arson. Three major fires contributed to a total dollar loss in 2011 of approximately \$1.3 million structural; \$300,000 contents.

## Code and Policy Development and Publication

The Fire Marshal is responsible for developing and publishing policies related to established fire prevention goals.

- \* In 2011, the Fire Marshal revised and updated policies on fire sprinklers, fire alarms, fire hydrants, fire department access, fire protection for piers, certification of fire protection systems, and pyrotechnics. The policy on fire alarms was updated in cooperation with other area fire marshal in order to provide consistency between jurisdictions. In addition, an over-the-counter permit application for fire sprinklers was developed and implemented regionally.

## Fire Safety Information Bulletins

Information bulletins consist of fire safety information which business owners or the general public may find helpful.

- \* In 2011, several policies were updated and put on the Fire Prevention website to assist the public. These updated bulletins included helpful information on chimney fires, holiday safety, and recreational fires.



(L-R: Deputy Fire Marshal Jim Crowe; Fire Marshal Grace Steuart; Assistant Fire Marshal Dave Walker; Fire Inspector/Investigator Jason Chappell)

# OFFICE OF EMERGENCY MANAGEMENT

The Kirkland Office of Emergency Management (OEM) is the focal point for emergency management planning in the city. OEM is the lead agency for facilitating the coordination of emergency management activities among local, state, federal, and private sector agencies within the City of Kirkland. Every city department takes an active role in emergency management and works closely with OEM staff to train, exercise, plan, and respond.

## **Vision:**

*The City of Kirkland's Office of Emergency Management (OEM) will provide leadership in promoting a community that is resilient in the event of a disaster.*

## **Mission:**

*To create and sustain partnerships that support disaster prevention, preparedness, response and recovery to become a resilient community.*

## **READY TO RESPOND**

### **Emergency Operations Center (EOC)**

The mission of the Emergency Operations Center (EOC) is to provide centralized coordination of the City's emergency response personnel, resources, facilities, and mutual aid assistance. The EOC may be activated anytime there is an incident that overwhelms resources or a planned event that requires additional support beyond day-to-day response/recovery capabilities. The Office of Emergency Management is responsible for ensuring that the EOC is fully equipped at all times, and that staff are sufficiently and adequately trained and prepared, day or night. The EOC has three levels of activations; monitoring, elevated, and full. The level of activation will be determined by the nature and extent of the disaster.



### **Training & Exercises**

To ensure that City staff is in a mission-ready state, various levels of training are coordinated and facilitated by OEM, throughout the year. Drills and exercises test equipment and procedures and identify areas of improvement.

Exercises such as these are vital to ensuring that the City of Kirkland can respond to the needs of the community before, during, and after an event.

### **Community Partnerships and Events**

Community partnerships are the backbone of emergency management and are vital to the effective and efficient response in a disaster; knowing who to call in a disaster, before a disaster, saves time and lives. In recent years, our regional partnerships have grown exponentially, creating a solid network of private, non-governmental and faith based organizations.



## **Community Points of Distribution**

The Office of Emergency Management coordinated with the Washington State Emergency Management Division and Kirkland volunteers, to participate in a 7-hour Community Points of Distribution Manager's class; In addition to community volunteers, four Kirkland staff members and a representative from Northwest University, also attended.

Points of distribution, or POD's, are centralized locations where the public picks up life sustaining commodities following a disaster or emergency, including shelf-stable food and water. The need for a POD is based on lack of infrastructure to support normal distribution of food, water, and other supplies.

In the near future, OEM hopes to develop a comprehensive CPOD Plan and establish a strong partnership with local universities and colleges, such as Northwest University, as well as the faith based community, to assist us in this endeavor.



## **PUBLIC EDUCATION AND COMMUNITY OUTREACH**

### **Map Your Neighborhood (MYN)**

Kirkland prides itself on its sense of community. Much of that sense comes from active and vibrant neighborhoods. A disaster preparedness program, Map Your Neighborhood, offers a unique way for neighborhoods to connect before, during, and after a disaster.

Between April and June, the Office of Emergency Management conducted 3 MYN Train-the-Facilitator events, reaching nearly 100 Kirkland MYN leaders. On June 12th, the city celebrated its first Map Your Neighborhood Day where at least a dozen neighborhoods mapped their area. The program is designed to be done independently by local citizens and can be done in approximately 90 minutes. All of the materials are free and are available through the Office of Emergency Management.



### **Employee Emergency Preparedness Open House**

The Office of Emergency Management sponsored an employee emergency preparedness open house. Approximately 100 employees participated in the event which included information and resource booths for personal and pet preparedness, Ham radio, Map Your Neighborhood and Community Emergency Response Training (CERT).

The goal of the event was to educate staff on the importance of personal and family preparedness. All organizations should conduct events such as this at annually.

# OFFICE OF EMERGENCY MANAGEMENT

## PLANS

### Comprehensive Emergency Management Plan

The Comprehensive Emergency Management Plan (CEMP) is on a four-year update cycle and is a base requirement for the Emergency Management Performance Grant (EMPG). The CEMP provides the policy for emergency management activities in Kirkland. In 2010, the plan was updated and approved by the Washington State Emergency Management Division and in 2011 was approved by the Kirkland City council.

### Ready Corps Vista Volunteer

Ready Corps is a statewide program run by the Washington Service Corps and is funded by the federal AmeriCorps VISTA program. The Ready Corps program focuses on homeland-security issues relating to disaster preparedness, emergency planning and community-outreach activities; in 2011 Kirkland had a VISTA member working on community preparedness outreach.



The VISTA member coordinated citizen volunteers who invested 267 hours assisting the Office of Emergency Management. Activities included handing out emergency preparedness kits to low income citizens, attending Map Your Neighborhood Facilitation meetings, conducting preparedness meetings within their neighborhood and assisting in creating a sustainable CERT program.

### **Amateur Radio Emergency Service (ARES)**

Communication is a critical aspect of disaster response and HAM radio has been shown to be the most reliable method during and after a disaster.

The City has a partnership with a strong and growing volunteer organization (ARES) that supplies the staffing for the HAM radios. The purpose of the ARES Team is to provide the City of Kirkland with an independent, volunteer supported communications system.

The Kirkland ARES Team consists of over forty registered emergency volunteers who participate in numerous drills throughout the year. The Emergency Preparedness Coordinator serves as the government Liaison to the group and helps coordinate the team's activities and work plan.

Through the Capital Improvement Project, the Team is in the process of upgrading all of the equipment, greatly expanding voice and digital capabilities. The upgraded equipment includes two fully mobile/portable units which could be deployed as needed, for example, to a shelter site.

In 2011, the Team reported nearly 250 volunteer hours. In 2012, the team will finalize the equipment upgrade by developing standard operating procedures and conducting various exercises to test these plans.

# OPERATIONS HIGHLIGHTS



## OPERATIONS DIVISION 2011 YEAR IN REVIEW

The City of Kirkland has 5 fire stations staffed by professional firefighters. The Kirkland Firefighters are also certified Emergency Medical Technician (EMT). They respond to all types of calls from fire, rescues, medical, vehicle accidents and general service calls. There is also one station in Finn Hill that is staffed in the evening by volunteer EMT team responding only to medical calls in partnership with a professional firefighting crew. The Advanced Life Support response (ALS Medic unit) is supplied to the Kirkland community on a regional basis and is managed by the Redmond Fire Department.

### In 2011:

With the annexation of the Finn Hill, Juanita and Kingsgate neighborhoods, the Operations Division changed the location of emergency response vehicles and increased the total number of firefighters to provide consistent levels of service to all areas of the "new" City.

The Department began implementation of a new dispatching system with the regional dispatch organization, NORCOM. Implementation was intended to improve service to the Community by reducing the amount of time it takes a unit to be dispatched to a call, to improve communication from Dispatch to responding units and to improve the records management system. Although a cascading systems failure prevented a successful launch of this project, NORCOM, its partners and regional fire departments, continue to evaluate the challenging issues that caused that failure and to develop an improved dispatching plan for the region.

The Department also sponsored the 7th Annual Lake Washington High School DUI Think Again presentation, in partnership with the Lake Washington School District, the Kirkland Police Department and Medic One. The presentation depicts a mock drunk driving accident for the students to watch and the opportunity to listen to the experiences of a parent who lost a child to drunk driving. ***The Community is seeing a decrease in youth DUIs and the Kirkland Fire Department is proud to play a part in this encouraging trend.***

In 2011 the department had some challenging calls and some very successful "saves". On November 1st, 2011; there was a in an 8 unit multi-family structure with flames and heavy smoke showing from the front door of a second floor unit when units arrived. There was an unconfirmed report of possibly two victims still in the unit. Kirkland fire units made an aggressive attack on the fire at the front door, entered the unit and immediately initiated a primary



# OPERATIONS HIGHLIGHTS



search of the unit. Two victims were found in a bedroom, the mother unconscious in a chair, the son was found conscious on the bed. Both victims were removed by Kirkland fire fighters, treated at the scene and then transported to Evergreen Hospital Medical Center. Both victims recovered from 2nd degree burns and inhalation injuries. Emergency units at the scene were from Kirkland, Bothell, Redmond, and Shoreline to help safely rescue the residents, control the fire and make sure that no firefighters or other residents were injured.

Some other calls were a fire on the Argosy Boat, a "Noro Virus" outbreak in the downtown corridor with 40+ patients, assisting Redmond Fire

Department with a New Years Day triple fatality fire and Bellevue Fire Department at a large office complex fire.

In 2011 the department air support unit was outfitted with an air compressor which now allows it to refill a firefighter's self contained breathing apparatuses at an incident where firefighters are entering a hazardous environment.

## TRAINING DIVISION

2011 – Began a new cooperative relationship with the cities of Bellevue, Mercer Island, and Redmond and with the Northshore Fire District to provide training to a combination force exceeding 600 firefighters called the East Metro Training Group.

The five regional training partners created operational guidelines to get the agencies on the same tactical page. They are able to bring approximately the same resources together as would be dispatched to a fire and conduct 'multi-company operations' training several times a year; and are developing 'Best Practices' firefighting guidelines.

Kirkland conducted a joint firefighter basic recruit academy with the City of Bellevue. Bellevue had seven and Kirkland had five new firefighters. Kirkland provided one Captain and one engine operator for the academy. Both parties saw the benefits of doing these together and began the planning process for future academies.

In 2011, the East Metro Training Group conducted Multi-Company Operations (MCO) which is an opportunity to train together for responding to fire incidents. These trainings included 6 – 9 emergency response units on six dates with three sessions per day. Each session has three or four engines, one ladder company, an aid or medic unit, and one or two Battalion Chiefs for an average of 16 to 18 personnel. This





comes roughly to 300 personnel trained per MCO or 1800 for the year. There were also three to six training division staff on hand at each drill to make sure that the trainings cover the needed items and that safety is always maintained.

Each firefighter and crew is responsible to complete quarterly training to meet requirements. Fire personnel are assigned crew and individual training through a shared website with Redmond Fire. Hose drills, ladders, rescue, medical continuing education and safety topics are just some of the topics covered; This training amount to approximately an additional 80-100 hours per individual per year.

## TECHNICAL RESCUE:

The department is the lead agency for the Zone One (North East King County) Regional Technical operations group and in 2011 had regular training in structural collapse rescue, trench rescue, water rescue and high and low angle rope rescue.

**Station 27 is Kirkland's designated Technical Rescue station** with all assigned personnel trained to the Technician Level (or actively engaged in classes to achieve certification) in the following disciplines:

- Rope (high angle, low angle) Rescue
- Trench Rescue
- Confined Space Rescue
- Structural Collapse Rescue
- Vehicle/Machinery Rescue

There are 27 personnel assigned to Station 27 and six other officers in the Department who are Rescue Technicians.



The Department also has a near shore water rescue training program. Rescue equipment is currently kept on all the medical units, ladder unit, and battalion vehicle. All firefighters are training to Awareness and Operations Level to support a water rescue and there are also 54 firefighters trained as Rescue Swimmers, which means they can enter the water to perform rescues.

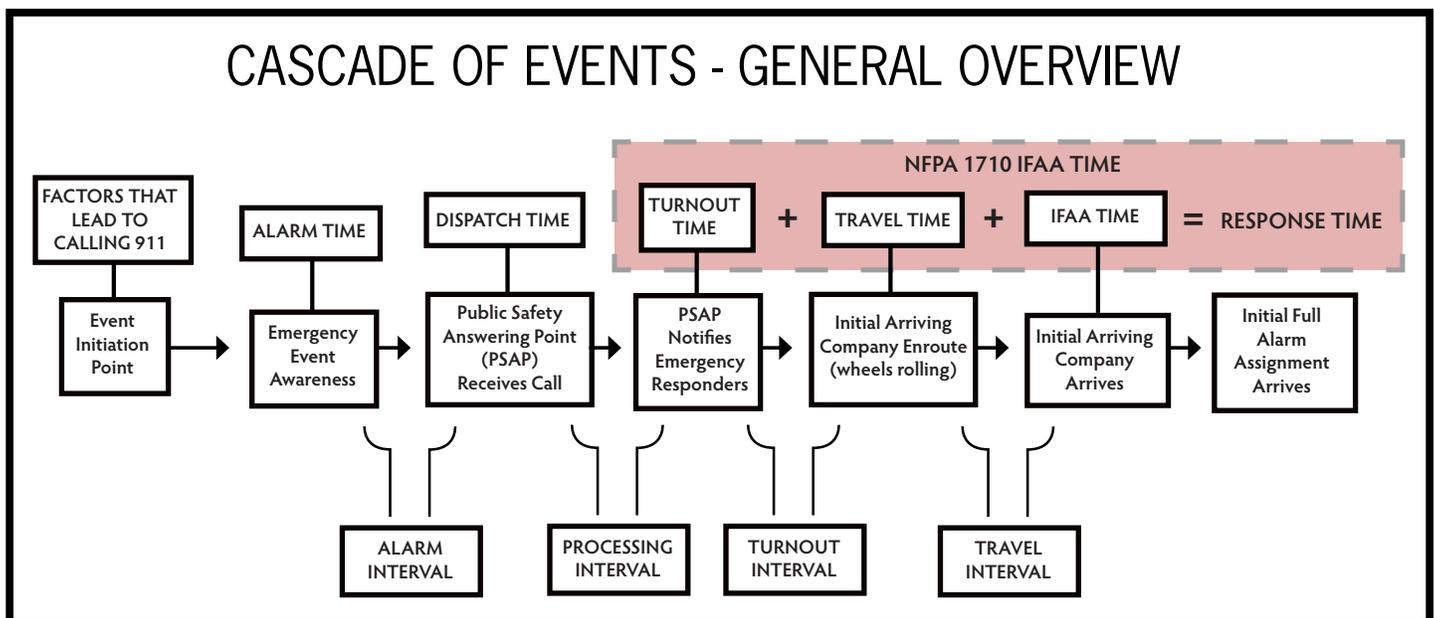
# RESPONSE DATA

## INTENT OF RCW CHAPTER 35A.92

The legislature intends for code cities to set standards for addressing the reporting and accountability of substantially career fire departments, and to specify performance measures applicable to response time objectives for certain major services. The legislature acknowledges the efforts of the international city/county management association, the international association of fire chiefs, and the national fire protection association for the organization and deployment of resources for fire departments. 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 flash-over is a critical event during the mitigation of an emergency, and is in the public's best interest. For these reasons, this chapter contains performance measures, comparable to that research, relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations by substantially career fire departments. This chapter does not, and is not intended to, in any way modify or limit the authority of code cities to set levels of service.

## CASCADE OF EVENTS

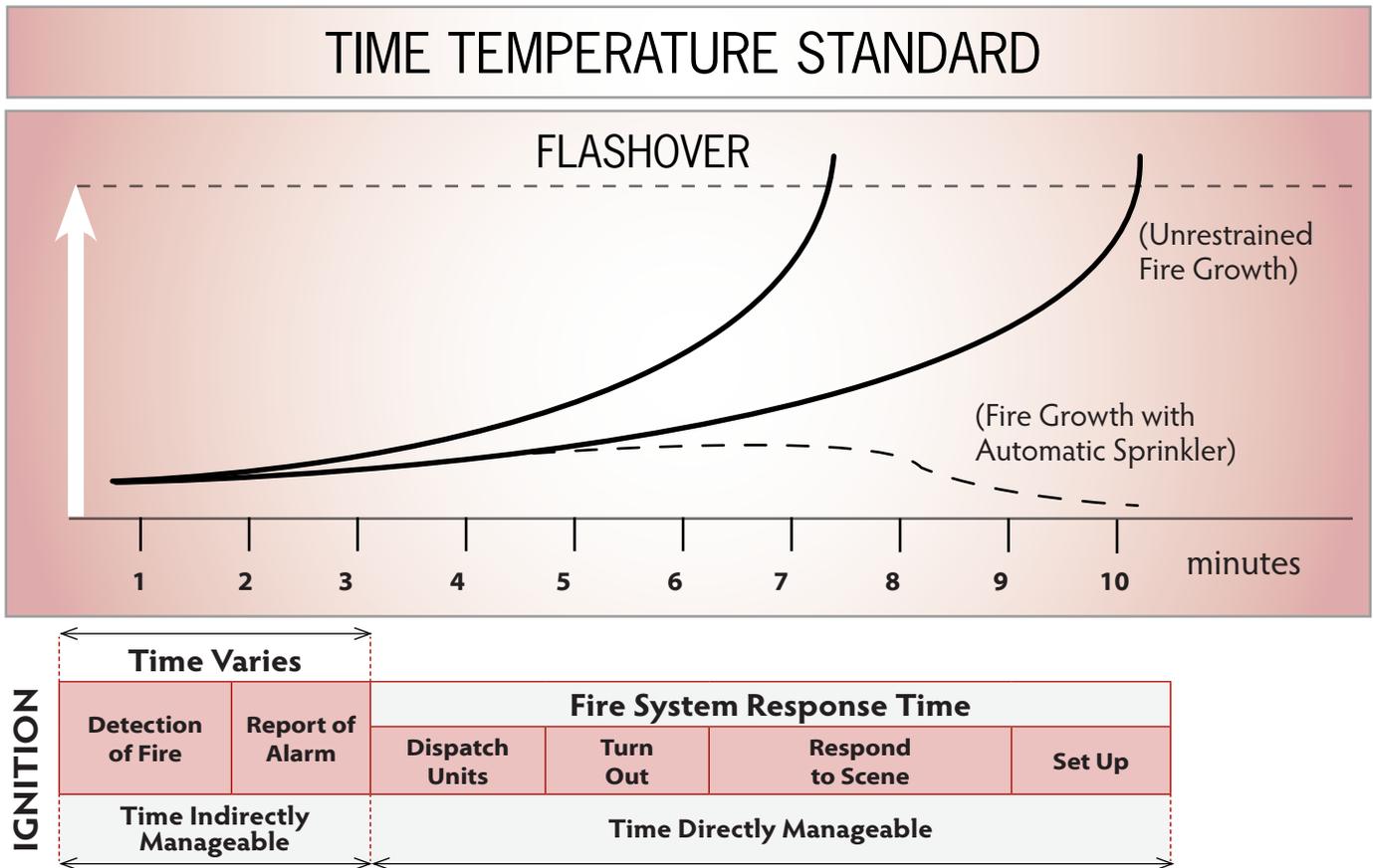
The Commission on Fire Accreditation International (CFAI) has defined response time elements as a cascade of events. This cascade is similar to that used by the medical community to describe the events leading up to the initiation, mitigation and ultimate outcome of a cardiac arrest. It is directly influenced 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 in the figure below 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 5 and 10 minutes after ignition, turning a typical “room and contents” fire into a structural fire of some magnitude.



## TIME TEMPERATURE CURVE

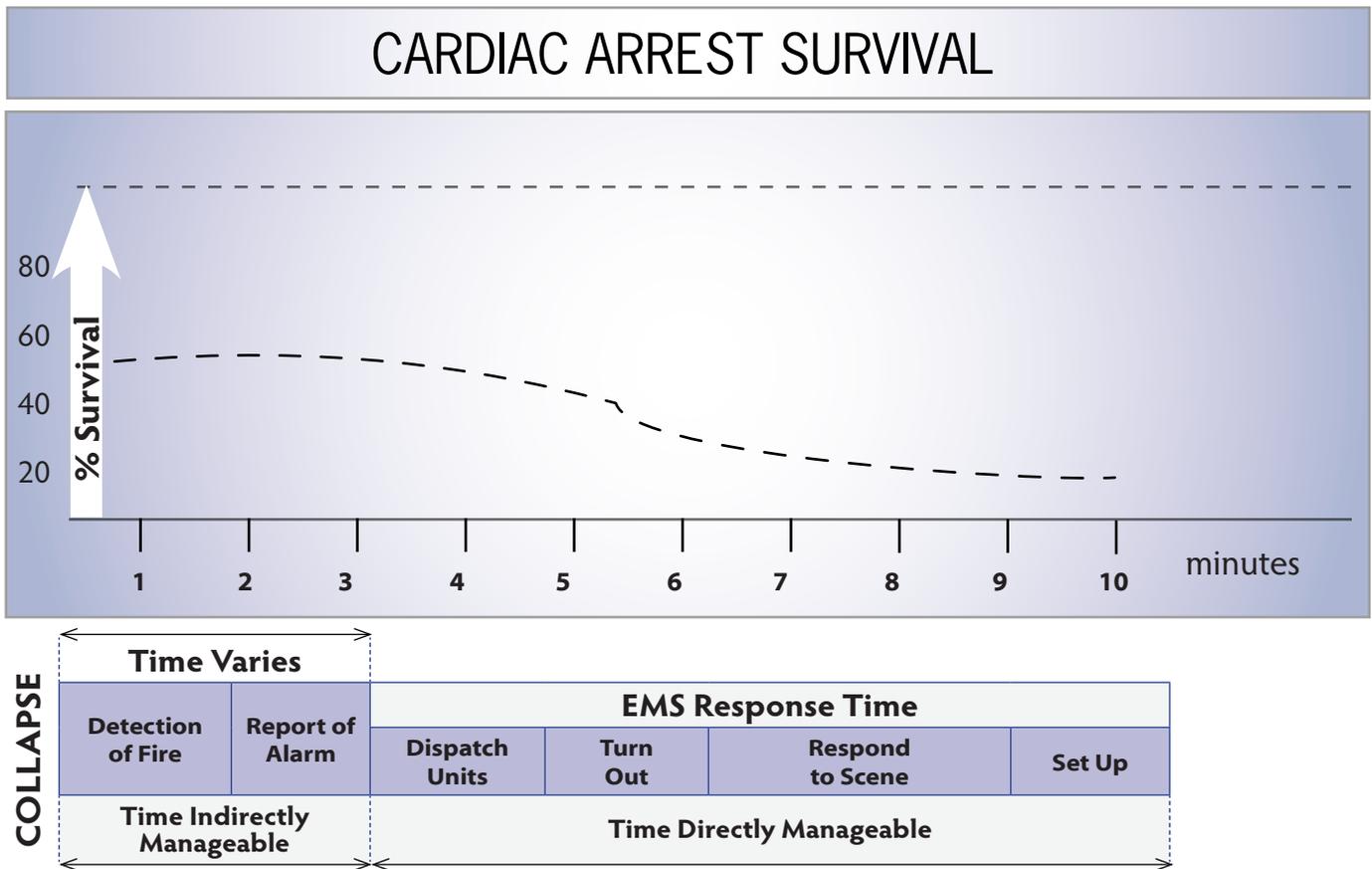
The utility of the time-temperature curve for fire station placement is limited to a number of factors, including but not limited to the following:

- 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.

# RESPONSE DATA

## 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 4 minutes 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.





## TOTAL CALL LOG

Total emergency responses in 2011 were broken down as follows:

CALL TYPES (listed according to station reporting)							
	21	22	24	25	26	27	ALL
<b>TOTAL FIRES</b>	46	66	3	23	54	105	301
Building Fires in area	2	7	0	4	6	11	30
Building Fires in OJ <sup>1</sup>	0	5	3	0	8	12	29
All Vehicle Fires	4	10	0	2	7	10	33
Other Fires	40	44	0	17	33	72	209
<b>EMS/RESCUE</b>	823	1145	48	441	736	1733	5140
<b>HAZARDOUS CONDITION</b>	23	23	0	14	20	27	108
<b>SERVICE CALL</b>	46	67	0	40	44	65	271
Automatic Fire Alarms	90	204	1	31	111	250	733
<b>OTHER<sup>2</sup></b>	72	153	5	54	159	245	767
<b>TOTAL CALLS</b>	<b>1100</b>	<b>1658</b>	<b>57</b>	<b>603</b>	<b>1124</b>	<b>2425</b>	<b>7320</b>

<sup>1</sup>OJ includes calls where Kirkland units responded to outside jurisdictions.

<sup>2</sup>"Other" - mostly include good intent calls & OJ calls alone



# RESPONSE DATA

## RESPONSE TIME OBJECTIVES

### 1) TURNOUT TIME

- Turnout Time Objective:

The City of Kirkland Fire Department has adopted a turnout time objective of sixty (60) seconds, ninety percent (90%) of the time.

#### ACTUAL DEPARTMENT TURNOUT TIME FOR 2011:

90% Turnout time: under two (2) minutes and twelve (12) seconds.

Meet the turnout time objective: thirty percent (30%) of the time.

### 2) ARRIVAL OF 1ST ARRIVING ENGINE COMPANY AT FIRE SUPPRESSION INCIDENT

- Response Time Objective From Dispatch Time:

The City of Kirkland Fire Department has adopted a response time objective of four (4) minutes and forty-five (45) seconds for the first fire engine to arrive when responding to a fire suppression incident ninety percent (90%) of the time.

- Total Response Time Objective, from the time of 911 call to arrival at scene:

The *total response time Objective* is: five (5) minutes and thirty (30) seconds for the first fire engine to arrive when responding to a fire suppression incident ninety percent (90%) of the time.

#### ACTUAL DEPARTMENT RESPONSE TIME FOR 2011:

- Actual Response Time Objective From Dispatch Time:

90% Time for the arrival of the first fire engine to fire suppression incident: under seven (7) minutes and five (5) seconds.

Meet the response time objective fifty three percent (53%) of the time.

- Actual Total Response Time Objective from the time of 911 call to arrival at scene:

90% Total response time for the arrival of the first fire engine to fire suppression incident: under eight (8) minutes and seventeen (17) seconds.

Meet the response time objective forty seven percent (47%) of the time.

### 3) ARRIVAL OF FIRST UNIT AT AN EMERGENCY MEDICAL INCIDENT

- Response Time Objective From Dispatch Time:

The City of Kirkland Fire Department has adopted a response/travel time objective of four (4) minutes and thirty (30) seconds for the arrival of the first emergency medical unit with at least two (2) Emergency Medical Technicians ninety percent (90%) of the time.

- Total Response Time Objective from the time of 911 call to arrival at scene:

The total response time objective is: five (5) minutes for the first unit to arrive when responding to an emergency medical incident ninety percent (90%) of the time.



#### **ACTUAL DEPARTMENT RESPONSE TIME FOR 2011:**

- Actual Response Time Objective From Dispatch Time:  
90% Time for a unit responding to an emergency medical incident was under six (6) minutes and twenty-nine (29) seconds.  
Meet the response time objective fifty-nine percent (59%) of the time.
- Actual Total Response Time Objective from the time of 911 call to arrival at scene:  
90% Total response time for a unit responding to an emergency medical incident was under seven (7) minutes and thirty-one (31) seconds.  
Meet the response time objective fifty-one percent (51%) of the time.

#### **4) DEPLOYMENT OF FULL FIRST ALARM ASSIGNMENT AT A FIRE SUPPRESSION INCIDENT**

- Response Time Objective for Full First (1st) Alarm Response:  
The City of Kirkland Fire Department has adopted a response time objective of ten (10) minutes for the first full alarm assignment when responding to a fire suppression incident ninety percent (90%) of the time. A first full alarm assignment to a fire suppression incident is: four (4) Engine companies, one (1) Ladder company, one (1) Aid car, one (1) Medical Services Officer, and two (2) Battalion Chiefs or a total of twenty (20) firefighting personnel.

#### **ACTUAL DEPARTMENT RESPONSE TIME FOR 2011:**

90% Time for full alarm to responding to a fire incident was under fourteen (14) minutes and twenty-four (24) seconds.  
Meet the response time objective fifteen percent (15%) of the time.



# RESPONSE DATA

## ADVANCED LIFE SUPPORT, (ALS MEDIC) RESPONSE

Advanced Life Support response is provided in Kirkland by King County EMS through a contract with the City of Redmond Fire Department.

Response time data for 2011 will be not provided by King County until late July of 2012. ALS response time data is the most current data available for this report as supplied by King County.

Medic response time standards are established by King County Medic One.

### Medic Response time standard

The King County Medic response time objective is average unit response times less than 10 minutes, and 80% of calls in less than or equal to 14 minutes.

Total 2010 Medic calls in Kirkland: 1,711

### RESPONSE ANALYSIS\*

	INCIDENT YEAR				
	2006	2007	2008	2009	2010
Call Volume	1,771	1,812	1,726	1,818	1,711
Total Response Time**	8.4	9.3	9.2	9.1	9.3
Dispatch Processing Time***	2.1	2.3	2.1	2.3	2.4
Unit Response Time	6.3	7.0	7.1	6.9	6.9
<b>Fractiles:</b>					
% < 08 min.	69.9%	65.0%	66.4%	61.2%	63.0%
% < 10 min.	87.9%	84.7%	86.2%	85.8%	84.4%
% < 12 min.	94.8%	94.1%	94.0%	94.0%	93.9%
% < 14 min.	97.5%	96.5%	96.6%	97.5%	96.8%

\*Responses for Primary Units Only, excluding Dispatch Time (Dispatch Notified to Unit Dispatched) AND Unit Response Time

(Unit Dispatched to On Scene) are < 0 and > 60 Minutes

\*\*Total Response Time = Dispatch Time + Unit Response Time

\*\*\*Excluding Responses Requested by BLS from Scene



## ALS RESPONSES TO KIRKLAND FD

Responses	1,771	1,812	1,726	1,818	1,711
Bellevue Medic 1	8.6%	9.2%	6.3%	7.0%	6.7%
Bellevue Medic 2	0.3%	0.3%	0.2%	0.1%	0.4%
Redmond Medic 19	11.8%	11.4%	9.6%	10.8%	8.2%
Redmond Medic 23	69.1%	71.9%	75.3%	72.4%	74.4%
Redmond Medic 35	0.5%	0.6%	0.3%	0.4%	1.3%
Shoreline Medic 47	6.4%	4.9%	5.9%	6.2%	6.0%
Shoreline Medic 63	0.6%	0.0%	0.1%	0.1%	0.1%
Shoreline Medic 65	1.6%	1.8%	2.4%	3.0%	3.0%

## MEDIC UNIT LOCATIONS

Bellevue Medic 1	Overlake Hospital Medical Center: 1035 116th Ave. NE, Bellevue, WA 98004
Bellevue Medic 2	Bellevue Fire Station 2: 2802 148th Ave. SE, Bellevue, WA 98007
Redmond Medic 19	Housed at Redmond Fire Station 11: 8450 161 Ave NE, Redmond, WA 98052
Redmond Medic 23	Housed at Evergreen Hospital Medical Center: 12040 NE 128th Street, Kirkland, WA 98034
Redmond Medic 35	Housed at Woodinville Fire Station 35: 17825 Avondale Rd NE, Woodinville, WA 98077
Shoreline Medic 47	Housed at Station 42: 10726 Beardslee Boulevard, Bothell, WA 98011
Shoreline Medic 63	Housed at Station 64: 719 N 185th Street, Shoreline, WA 98133
Shoreline Medic 65	Housed at Station 57: 17020 Brookside Boulevard NE, Lake Forest Park, WA 98155

## NORCOM 2011 Data

The core mission of the North East King County Regional Public Safety Communication Agency (NORCOM) is to provide high quality emergency service communication to the public for emergency medical services, fire and police. We will carry out this mission by receiving calls for service; dispatching resources in response to such calls; tracking and coordinating information flow and resources to assist responders; initiating records for all emergency events; and enhancing effectiveness, efficiency, coordination and interoperability of emergency service providers.

[www.norcom.org](http://www.norcom.org)

The City of Kirkland is represented on the executive board of NORCOM by the City Manager.

Kirkland police and fire serve on the NORCOM operations board.

## NORCOM dispatch 2011 performance measures:

90% of 9-1-1 telephone calls will be answered within 10 seconds or less during each hour of a calendar quarter (barring major disasters or other extraordinary events)

- Quarter 1: 98.15%
- Quarter 2: 98.58%
- Quarter 3: 98.44%
- Quarter 4: 95.55%

**90% of emergency fire/Medical (EMS) calls are dispatched within 60 seconds | NORCOM is at 85%**

**99% of emergency fire/ Medical (EMS) calls are dispatched within 90 seconds | NORCOM is at 95%**

# RESPONSE DATA

## PREDICTABLE CONSEQUENCES

There are sequences of events involved with structure fires and significant medical emergencies that explain the importance of response times. These sequences assist in creating effective outcomes to an emergency and show the predictable consequences if response is delayed.

### *Response Performance and Outcomes*

The ultimate goal of any emergency service delivery system is to provide sufficient resources (personnel, apparatus, and equipment) to the scene of an emergency in time to take effective action to minimize the impacts of the emergency. This applies to fires, medical emergencies, and any other emergency situation to which the fire department responds. A number of things must happen quickly to make it possible to mitigate the emergency.

### Factors - People, Tools and Time

Time matters a great deal in the achievement of an effective outcome to an emergency event. Time, however, isn't the only factor. Delivering sufficient numbers of properly trained and appropriately equipped personnel within the critical time period completes the equation.

For medical emergencies, this will vary based on the nature of the emergency. Most medical emergencies are not as time critical as structure fires. However, for serious trauma, cardiac arrest, or conditions that may lead to cardiac arrest, response time can be very critical. Equally critical is delivering a sufficient complement of personnel to the scene to perform all concurrent tasks required to deliver quality emergency care.

For example to effectively treat a cardiac arrest patient it can take up to 9 emergency response personnel: one crew of 2-3 perform CPR and operate the defibrillator, two medics to set up and operate advanced medical equipment, one to record the actions taken by emergency care workers, and another crew to assist in transporting the patient. Thus, for a medical emergency the real test of performance is the time it takes to provide the personnel and equipment needed to deal effectively with the patient's condition, not just the time it takes for the crew to arrive. The first crew initiates treatment, preventing the situations from getting worse.

Fire emergencies are even more resource critical. Again, the true test of performance is the time it takes to deliver sufficient personnel to initiate rescue and apply water on the fire. Effective operations at the scene of fire emergencies depend on the arrival of sufficient trained and equipped personnel to perform all of the duties and tasks required to control a fire event. Tasks that must be performed can be broken down into two key components, life safety and fire control.

Life safety tasks are based on the number of building occupants, their location, status, and ability to take self-preservation action. Life safety tasks involve the search, rescue, and evacuation of victims. These activities are also required to be safe for the rescuers, meaning that there must be a team in place to rescue the rescuers if they enter a structure. The fire control component involves delivering sufficient quantities of water to extinguish the fire and creating an environment within the building that allows entry by firefighters.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the command officer must prioritize the tasks, completing some in chronological order rather than at the same time, reducing overall fire emergency effectiveness.



## 2012 PLAN OF ACTION:

To meet the response time objectives the Kirkland Fire Department will continue to insure that all internal efficiencies are being indentified and evaluated. Continually evaluating response data to determine how to best improve reliability and look at what actions may improve the ability to accomplish the established response time standards.

The department will be starting a process to update the department strategic plan and will also evaluate ways to improve service to the North Finn Hill area by possibly relocation a station as well as discussing partnerships with other Fire Departments to enhance coverage for the citizens. The strategic plan will also evaluate the possibility of a regional training group.

The department will continues to upgrade equipment to more efficiently and effectively serve the citizens of Kirkland. All engines will have thermal imaging cameras, five-gas monitors and new portable radios on board by early 2012. A new structural collapse trailer and equipment was made possible through grant funds and will be completed in 2012. The City of Kirkland in partnership with the Redmond Fire Department received a grant to purchase electronic tablets to be able to improve service to the community on medical calls. The report will be completed in the field and in the future will be sent to the hospital before the patient arrives.

The department will continue to work with NORCOM to implement a complete dispatching system that will improve service to the community.

The department does not plan on any new firefighter positions in 2012.



# DEFINITIONS

**Alarm Interval** – Measured time between emergency event awareness and the alarm time.

**Alarm Time** – The point of receipt of the emergency event at the public safety answering point (PSAP) to the point where sufficient information is known to the dispatcher to deploy applicable units to the emergency. (Time-stamp)

**Advanced Life Support (ALS)** – Training is an intensive 3,000 hour program. Paramedic trainees receive training including, but not limited to: cardiology, pharmacology, general acute medicine, advanced airway and respiratory therapies, trauma including burns, orthopedic injuries, triage and extrication, and fluid resuscitation. Trainees acquire knowledge and skill through clinical rotations in local hospitals, primarily Harborview Medical Center, and while riding on Seattle Fire Department Medic Units under the direct supervision of Senior Seattle Paramedics.

**Basic Life Support (BLS)** – Certified Emergency Medical Technicians (EMT). EMT classes are 120 hours of classroom and practical work with 10 hours of hospital observation time.

**Call Processing Interval** – The first ring of the 911 telephones at the dispatch center and the time the CAD operator activates station and/or company alerting devices. This can, if necessary, be broken down into two additional parameters: “call taker interval” (the interval from the first ring of the 911 telephone until the call taker transfers the call to the dispatcher) and “dispatcher interval” (the interval from the time when the call taker transfers the call to the dispatcher until the dispatcher (CAD operator) activates station and/or company alerting devices). Sixty (60) seconds is an industry standard. (Measured time between alarm time and dispatch time).

**Dispatch Time** – Is the time when the dispatcher, having selected appropriate units for response with assistance from the CAD system, initiates the notification of response units. (Time-stamp)

**Emergency Event Awareness** – The point at which a human being or technologic “sentinel” (i.e., smoke detector, infrared heat detector, etc.) becomes aware that conditions exist requiring an activation of the emergency response system. This is considered the emergency event awareness.

**Event Initiation Point** – The point at which factors occur that may ultimately result in an activation of the emergency response system. Precipitating factors can occur seconds, minutes, hours, or even days before emergency event awareness is reached. An example is the patient who ignores chest discomfort for days until it reaches a critical point at which he/she makes the decision to seek assistance (emergency event awareness). It is rarely possible to quantify the point at which event initiation occurs.

**Fractile** - The 90th fractile is the response interval for the call that falls on or above the point where 90 percent of the responses are less than or equal to it. The 25 calls for a single day in the table have been put into rank order, running from the shortest at the top to the longest at the bottom.

**Initial Company Time** – The time at which the initial company arrives on scene.

**Initial Full Alarm Assignment** – Time when all of the personnel, equipment, and resources ordinarily dispatched upon alarm arrives on the scene. In 2009, a full alarm assignment was four Engine companies, one Ladder company, one Aid car, one MSO (Medical Services Officer), and two Battalion Chiefs or firefighting staff equaling 20.

\*Measured component required by RCW Chapter 35A.92 for fire suppression responses\*



**Initial Full Alarm Assignment Interval** – Measured time between initial company on scene time and Initial Full Alarm Assignment is completed.

**Response Time** – The combined measured time from dispatch time and includes turnout and travel intervals to initial company arrival time.

**Total Response Time Objective** - The City of Kirkland Fire District has historically adopted the response time from the time of the 911 call to the time the first arriving unit was on the scene. Dispatch time + turnout time + Travel Interval = Total Response time.

**Travel Interval** – measured time between turnout time and on scene time of initial company. \*Measured component known as “Response Time” required by RCW Chapter 35A.92\* CFAI recognizes the need to categorize each emergency response zone into relevant categories (urban, suburban, rural and wilderness) and measure appropriate travel times for each category. CFAI’s method for clarification is more precise than what HB1756 specifically requires.

**Turnout Interval** – Measured time between dispatch time and turnout time.

**Turnout Time** – When units acknowledge notification of the event to the beginning point of response time (wheels rolling). \*Measured component known as “Turnout Time” required by RCW Chapter 35A.92\*





# KIRKLAND FIRE DEPARTMENT

## 2011 ANNUAL REPORT

