

## Public Safety Committee Meeting

Date: November 17, 2016

Attendance: Toby Nixon, Penny Sweet, Dave Asher, Marilynne Beard, Kurt Triplett, Mike Ursino, Joe Sanford, Helen Ahrens-Byington, Pattijean Hooper, Michael Olson

Agenda Item:	Action Items:
<p><b>1. Topic: Police Dashboard Review</b> <b>Notes:</b> Captain Ursino provided an overview of crime trends and commentary on what the department is doing to address emerging trends and community concerns. He presented a brochure about a new program “Pup Patrol” where dog walkers are asked to pay attention to their neighborhoods and report any unusual behavior or vehicles to the police.</p> <p>Councilmember Asher asked that more information on each topic be provided along with the ability to “click” on a stat to get more information. City Manager Triplett noted that this may be a capability available on a new performance management system. Councilmember Asher also asked for more information on bicycle and pedestrian incidents in addition to auto collisions. Councilmember Nixon asked whether staff has ever considered battery backup for signals that would automatically transition to all-way flashing red in the event of a power outage.</p> <p><i>See Attachment A and B</i></p>	<ul style="list-style-type: none"><li>• Provide data on bicycle and pedestrian incidents (also requested for Parks and Public Works Committee)</li><li>• Forward idea for battery back-up of signals to Public Works</li></ul>
<p><b>2. Topic: West of Market Neighborhood Crime Concerns</b> <b>Notes:</b> Captain Ursino referenced the citizen’s presentation at the November 15 City Council meeting about community concern for crime trends West of Market. He noted that the “rock smash” entry MO is</p>	

Agenda Item:	Action Items:
<p>also taking place in neighboring communities such as Medina, Clyde Hill and Bellevue. Most incidents are occurring in the early to mid-evening hours. Kirkland Detectives are working to narrow down the evidence that leads to a person of interest. In the meantime, detectives are responding directly to alarms in the area (prior to dispatch by NORCOM), conducting random foot and unmarked car patrols and providing overtime hours for additional patrols.</p>	
<p><b>3. Advanced Life Support Study</b></p> <p><b>Notes:</b> Councilmember Sweet had previously distributed the ALS (Advanced Life Support) Study to committee members. City Manager Triplett summarized the primary findings that no additional units were needed and, if there were a new provider, there should be a minimum of three units in order to realize efficiencies. Given the study conclusions, it is unlikely that Kirkland would be an ALS provider under the current system.</p> <p>Councilmember Sweet asked about the status of BLS (Basic Life Support) lead agency study and Chief Sanford noted that the project funding was diverted to quality assurance.</p> <p>Councilmember Nixon asked about the status of the King County Community Medical Technician program. Chief Sanford noted that Shoreline's experience is that the medic one funding is insufficient to adequately provide the service since it only provides for one CMT in the unit whereas the sponsoring agency believes that two CMT's are needed.</p> <p><b><i>See Attachment E and F</i></b></p>	

Agenda Item:	Action Items:
<p><b>4. COOP Draft</b></p> <p><b>Notes:</b> Pattijean Hooper presented an overview of the contents of the draft Continuity of Operations Plan (COOP). She explained that the COOP enables the Continuity of Governance (COG) and they are not separate documents. The document is currently being reviewed by the departments.</p> <p>Committee members asked for more content regarding the role of Council and how to assure that management can communicate during an incident.</p> <p><i>See Attachment C and D</i></p>	
<p><b>5. Upcoming Topics</b></p> <p><b>Notes:</b> The December meeting will include the Fire Dashboard and an update on the Fire Strategic Plan.</p>	
<p><b>Future Agenda Topics:</b></p> <ul style="list-style-type: none"> <li>• Fire Public Education (5/16)</li> <li>• King County CMT Program Report</li> <li>• What policies and training do Police officers have to deal with cultural and language differences (post-Alabama)?</li> <li>• Continuity of Government and Operations plans</li> <li>• Dashboard review</li> <li>• Road barrier removal/replacement on Finn Hill (1/16)</li> <li>• Fire Strategic Plan Update</li> <li>• Review of firefighter overtime</li> <li>• Inmate feedback for jail</li> <li>• Use of private ambulance service for non-emergent transports</li> </ul>	

## WHAT IS “PUP PATROL”?

*Pup Patrol is a crime awareness program that encourages dog walkers throughout the area to assist as “extra eyes and ears” in the ongoing crime prevention efforts of the Kirkland Police Department.*

*There are dozens, if not hundreds, of dog walkers throughout Kirkland at all times of the day. With their extra help, our streets and neighborhoods can be safer for both pets and their owners.*



Kirkland Police Department  
11750 NE 118th St  
Kirkland, WA 98034

425-587-3400

# Kirkland Police Department



**Pup Patrol**



# Pup Patrol

**How the program works.....**There are hundreds of dog walkers in our community and only a limited number of police officers. Our local dog walkers can be an invaluable asset to our community's safety. The police department is asking for your help in locating and reporting criminal activity in your neighborhood!

## Did you know...

**90%** of police arrests are the direct result of a citizen's phone call.



**What is suspicious?  
If you notice something that doesn't seem right, it could be criminal activity!**

- Is someone acting strange or doesn't belong in the area?
- Does the person(s) appear to have a destination?
- Is the person(s) looking into windows or checking door handles?
- A Vehicle parked in an unusual location or idling in an area that it doesn't belong?
- A vehicle full of random property (i.e. television, laptop, pillow cases, etc.).
- A vehicle traveling at a low or high rate of speed.
- Apparent business transactions conducted from a vehicle.



**Be the BEST witness possible!**

### When should I call 911?

Anytime a police response is needed.

**REMEMBER:** You are not bothering us.

What to do when you call 911.....

- Tell the dispatcher what is going on? Description of subject/vehicle, Weapons?
- Where are you? Address, street name, landmark, location, etc.
- Your information: Your name and your phone number.
- Are you available to speak with an officer?

**2016 3<sup>rd</sup> Quarter Crime Summary**

**Murder:** We have had one murder so far this year. On May 7, 2016, a 29-year-old male was shot in a Juanita home and later died at the hospital. The incident is not believed to be random. No arrest has been made yet, however, the investigation remains very active.

**Sex Offenses:** This category includes crimes such as rape, child molestation, indecent liberties, and voyeurism. There were 34 incidents reported so far this year which is average for the same timeframe over the past four years.

**Robbery:** Year to date we have had 15 robberies reported. This is up 7% over the same period averaged over the past four years. It is important to note that robberies are not a frequent crime in Kirkland and changes in small numbers may result in large percentage changes.

**Aggravated Assault:** There were 25 aggravated assaults so far this year, which is significantly below the average for this crime.

**Residential Burglary:** There were 132 residential burglaries reported during this time, which represents a decline of 16% from the weighted average of the past four years and down 15% from last year. The Department is initiating an innovative new approach to engaging the community called "Pup Patrol" that specifically targets dog walkers. There are both civilian and professional dog walkers who spend a great deal of time in our neighborhoods who are encouraged to report suspicious vehicles or activity in an effort to reduce burglaries and car prowls.

**Commercial Burglary:** Commercial burglaries were also down during this period, with 70 reported. This is a 6% decline from the four year weighted average.

**Auto Theft:** Auto theft picked up in the third quarter resulting in an YTD total of 114, a 3% increase from the weighted average of the same period for the past four years.

**Car Prowl:** There were 487 car prowls reported city-wide year-to-date, representing a 17% increase from the four-year weighted average and a 15% increase from last year. Car prowl continues to be a persistent crime throughout the city. The Department continues its attempt to be proactive in preventing these crimes within the current staffing limitations. When staffing allows, Officers in unmarked vehicles have provided directed patrol in neighborhoods such as the Norkirk and West of Market neighborhoods. The Department has also engaged community members during neighborhood meetings in order to provide crime prevention tips in an effort to minimize victimization.

**DUI:** DUI arrests continued to decline with 141 cases taken over the first nine months of 2016, a 38% drop from the weighted average of the same period over the past four years and a 29% decrease from the same period last year. Anecdotally, Officers believe the decrease in downtown taverns & bars along with the increase in low cost transportation, such as Uber has led to the decrease in DUI arrests. There is no other Department generated activity to explain the decrease in DUI arrests other than the Traffic Unit supporting Patrol functions that reduces the amount of time performing DUI enforcement.

**Collisions:** We have seen 1,086 reported collisions so far this year, a 14% rise from the weighted average of the same timeframe over the past four years and a 5% increase from the same period last year. Our ability to provide enforcement for collision causing violations has decreased as Traffic Officers spent an inordinately amount of time supporting Patrol functions. The Traffic Unit works closely with the City

Transportation Engineer, who reports there has also been a marked increase in the volume of traffic that would also contribute to an increase in collisions. \*Traffic data to be formatted & forwarded ASAP.

## Kirkland Police Department Dashboard

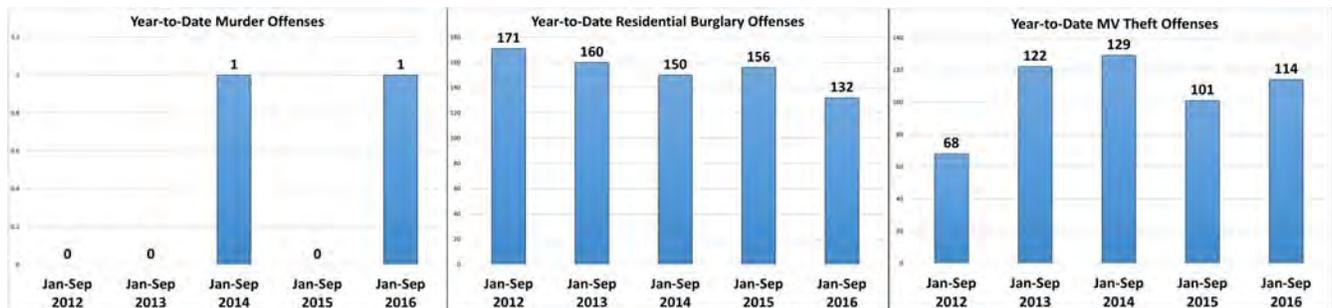
Third Quarter 2016 Report

January 1 to September 30

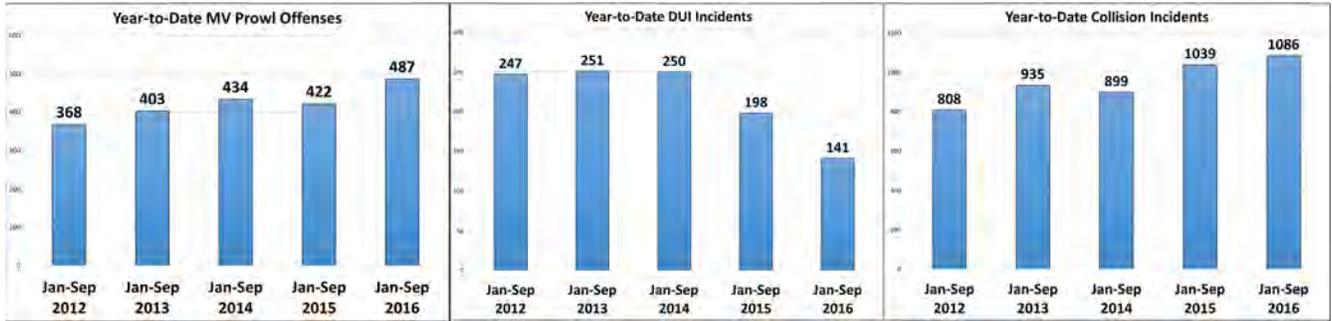
Crimes of Interest	2012-2015 Wtd. Avg.	Normal Range	2016	Change from Wtd. Avg.
Murder	0.3	0 to 1	1	233%
Sex Offenses	34.9	28 to 42	34	-3%
Robbery	13.5	12 to 15	15	11%
Aggravated Assault	32.2	27 to 37	25	-22%
Burglary - Residential	156.5	149 to 164	132	-16%
Burglary - Commercial	74.1	63 to 85	70	-6%
Motor Vehicle Theft	110.3	87 to 134	114	3%
Motor Vehicle Prowl	416.4	391 to 441	487	17%
DUI	229.1	207 to 251	141	-38%
Collisions	953.1	870 to 1036	1086	14%

### Status Key

- Below or Within Expected Range
- Above Expected Range



ATTACHMENT B



2016

# City of Kirkland Continuity of Operations Plan



**TABLE OF CONTENTS**

I. PROMULGATION STATEMENT .....3

II. ANNUAL REVIEW.....4

III. RECORD OF CHANGES.....4

IV. RECORD OF DISTRIBUTION.....5

V. PURPOSE, SCOPE, SITUATIONS, AND ASSUMPTIONS.....6

    A. Purpose .....6

    B. Scope .....6

    C. Situation Overview.....6

    D. Planning Assumptions .....7

    E. Objectives .....8

    F. Security and Privacy Statement..... 8

VI. CONCEPT OF OPERATIONS .....8

    A. Phase I: Readiness and Preparedness ..... 9

    B. Phase II: Activation ..... 12

    C. Phase III: Continuity Operations..... 16

    D. Phase IV: Reconstitution Operations..... 18

    E. Devolution of Control and Direction ..... 20

    F. Procedures for Devolving Essential Functions to Devolution emergency relocation group (DERG) at Devolution Site..... 22

VII. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES .....22

VIII. DIRECTION, CONTROL, AND COORDINATION .....23

IX. DISASTER INTELLIGENCE .....26

X. COMMUNICATIONS .....27

XI. BUDGETING AND ACQUISITION OF RESOURCES .....28

XII. PLAN DEVELOPMENT AND MAINTENANCE .....28

XIV. AUTHORITIES AND REFERENCES .....28

ANNEX A. Essential Functions ..... 30

    City Manager’s Office ..... 30

    City Attorney's Office.....32

    Courts .....33

    Facilities .....34

    Finance and Administration .....35

    Fire .....36

    Human Resources .....37

---

IT .....	38
Parks and Community Services .....	39
Police.....	40
Planning and Building .....	41
Public Works .....	42
ANNEX B. Essential Records Management .....	44
ANNEX C. Continuity Facilities.....	47
Delegation of Authority .....	49
ANNEX D. Human Resources.....	52
ANNEX E. Training and Exercises Program.....	54
ANNEX J. Glossary.....	57

## I. PROMULGATION STATEMENT

### A. Mission

To provide guidance for the City of Kirkland to reestablish and maintain essential services in the case of disruption and the need to relocate city departments and employees:

- Minimize loss of life, protect property and the environment, and otherwise reduce community and government vulnerability to natural, human-caused, and technological hazards.
- Hasten the restoration of public services and provide for effective recovery in all sectors of the community.

To accomplish this mission, the City of Kirkland must ensure its operations are performed efficiently with minimal disruption, especially during an emergency. This document provides planning and program guidance for implementing the City of Kirkland Continuity Plan and programs to ensure the organization is capable of conducting its essential missions and functions under all threats and conditions.

Key City of Kirkland personnel who are relocated under this plan are collectively known as the Emergency Relocation Group. Upon plan activation, these members will deploy to pre-determined alternative locations. Upon arrival, continuity personnel will establish an operational capability and perform essential functions within 12 hours from the time of the activation of the Continuity Plan, for up to a 30-day period or until normal operations can be resumed.

This plan is developed in accordance with guidance in the *National Continuity Policy Implementation Plan*; Continuity Guidance Circular 1 (CGC 1), *Continuity Guidance for Non-Federal Governments (States, Territories, Tribes, and Local Government Jurisdictions)*, dated July 2013; Continuity Guidance Circular 2 (CGC 2), *Continuity Guidance for Non-Federal Governments*, dated October 2013.

Kurt Triplett  
City Manager  
Kirkland, Washington

**II. REVIEW**

**City of Kirkland Continuity Plan**

Every two years the Office of Emergency Management reviews its Continuity Plan, components, and supporting elements, and makes any required updates or changes.

Element Reviewed	Date of Last Review	Individuals Conducting Review
Continuity Plan		
Essential Functions		
Continuity Facilities' Suitability and Functionality		
Continuity Communications' ability to support Essential Functions fully		

**III. RECORD OF CHANGES**

The Office of Emergency Management will track and record the changes using a record of changes table when changes are made to the Continuity Plan outside the official cycle of plan review, coordination, and update. The record of changes should contain, at a minimum, a change number, the date of the change, the name of the person who made the change, and a description of the change.

Change Number	Section	Date of Change	Individual Making Change	Description of Change



## **V. PURPOSE, SCOPE, SITUATIONS, AND ASSUMPTIONS**

### **A. PURPOSE**

The City of Kirkland must ensure its operations are performed efficiently with minimal disruption, especially during an emergency. This document provides planning and program guidance for implementing the City of Kirkland's Continuity Plan and programs to ensure the organization is capable of conducting its essential missions and functions under all threats and conditions. While the severity and consequences of an emergency cannot be predicted, effective contingency planning can minimize the impact on the City's missions, personnel, and facilities.

The overall purpose of continuity planning is to ensure the continuity of the essential functions under all conditions. The current changing threat environment and recent emergencies, including acts of nature, accidents, technological emergencies, and military or terrorist attack-related incidents, have increased the need for viable continuity capabilities and plans that enable organizations to continue their essential functions in an all-hazards environment and across a spectrum of emergencies. These conditions, coupled with the potential for terrorists' use of weapons of mass destruction, have increased the importance of having continuity programs that ensure continuity of essential functions across all levels of government.

### **B. SCOPE**

This Continuity Plan applies to the functions, operations, and resources necessary to ensure the continuation of the City of Kirkland's essential functions in the event its normal operations at each of its primary operating facilities are disrupted or threatened with disruption. This plan applies to all City personnel and all City staff should be familiar with continuity policies and procedures and their respective continuity roles and responsibilities.

This document ensures the City of Kirkland is capable of conducting its essential missions and functions under all threats and conditions, with or without warning.

### **C. SITUATION OVERVIEW**

According to the National Continuity Policy Implementation Plan, it is the policy of the United States to maintain a comprehensive and effective continuity capability. To that end, by continuing the performance of essential functions through a catastrophic emergency, the non-Federal Governments support the ability of the Federal Government to perform National Essential Functions (NEFs), continue Enduring Constitutional Government, and ensure that essential services are provided to the Nation's citizens. A comprehensive and integrated continuity capability will enhance the credibility of our national security posture and enable a more rapid and effective response to, and recovery from, an emergency.

Further, continuity planning should be based on the assumption that organizations will not receive warning of an impending emergency. As a result, a risk assessment is essential to continuity planning. Risk-specific assessments are conducted by the Office of Emergency Management found in the City of Kirkland Comprehensive Emergency Management Plan (CEMP)

The City of Kirkland's continuity facilities were selected following an all-hazards risk assessment of facilities for continuity operations use.

The risk assessment addresses the following for each continuity facility:

- Identification of all hazards
- A vulnerability assessment to determine the effects of all hazards
- Sufficient distance between each facility location or threatened area and other facilities or locations that are potential sources of disruptions or threats
- Sufficient levels of physical security required to protect against identified threats

#### **D. PLANNING ASSUMPTIONS**

This Continuity Plan is based on the following assumptions:

- An emergency condition may require the relocation of the City of Kirkland's COOP Team or multiple Department's COOP Teams to continuity facility or facilities.
- Each respective facility will support the COOP Team and the continuation of the its essential functions by available communications and information systems within 12 hours from the time the Continuity Plan is activated, for potentially up to a 30-day period or until normal operations can be resumed.
- Departments that have operations unaffected and are available to support impacted departments will do so with all available resources.
- In the event that a COOP Team deployment is not feasible due to the loss of personnel, the City of Kirkland will devolve to Fire Station 26.
- Data in the COOP will rarely be current due to attrition and other staffing movements, as such organizational charts will identify positions not people and personnel maps will be updated on a 2 year planning cycle.

## **E. OBJECTIVES**

The following are the City of Kirkland's COOP objectives:

1. Ensure that the City can perform its essential functions under all conditions.
2. Reduce the loss of life and minimizing property damage and loss.
3. Execute a successful order of succession with accompanying authorities in the event a disruption renders that organization's leadership unable, unavailable, or incapable of assuming and performing their authorities and responsibilities of office.
4. Reduce or mitigate disruptions to operations.
5. Ensure there are facilities from where organizations can perform essential functions.
6. Protect personnel, facilities, equipment, records, and other assets critical to the performance of essential functions in the event of a disruption.
7. Achieve the organization's timely and orderly recovery and reconstitution from an emergency.
8. Ensure and validate continuity readiness through a dynamic and integrated continuity Training and Exercise (T&E) program and operational capability.

## **F. Security and Privacy Statement**

This document is *For Official Use Only*. Portions of the Plan contain information that raises personal privacy or other concerns, and those portions may be exempt from mandatory disclosure under the Freedom of Information Act (see 5 United States Code §552, 41 Code of Federal Regulations Part 105-60). It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance city rules and regulations, and is not to be released without prior approval of the City of Kirkland Attorney to the public or other personnel who do not have a valid *need to know*.

Some of the information in this Plan, if made public, could endanger the lives and privacy of employees. In addition, the disclosure of information in this plan could compromise the security of essential equipment, services, and systems of the City of Kirkland or otherwise impair its ability to carry out essential functions.

Distribution of the Continuity Plan in whole or part is limited to those personnel who need to know the information in order to successfully implement the plan.

## **VI. CONCEPT OF OPERATIONS**

On rare occasions Kirkland city government may be confronted with events occurring suddenly or over a longer period of time, that escalate beyond normal operational capabilities. The incident, natural or human caused, may require a city department or

many city departments to leave primary places of operation and relocate to a different place. The intent of this plan is to pre-determine these places pre-incident so when an event causes relocation, essential services to the community can be reestablished quickly.

This section of the plan explains how the city, or impacted department will implement its continuity plan, and specifically, how it will address each continuity element. It is separated into four phases: readiness and preparedness, activation, continuity operations, and reconstitution operations. Devolution planning strongly correlates in each phase, and also is addressed in this section.

## **A. PHASE I: READINESS AND PREPAREDNESS**

The City of Kirkland will participate in the full spectrum of readiness and preparedness activities to ensure personnel can continue essential functions in an all-hazard/threat environment. Readiness activities are divided into two key areas:

- Organization readiness and preparedness
- Staff readiness and preparedness

### Organization Readiness and Preparedness

City of Kirkland preparedness incorporates the Code Red hazard and threat warning system for all staff, it maintains a Comprehensive Emergency Management plan, and the multi-jurisdictional mitigation plan that describes the County's and Kirkland's mitigation goals:

- a. Protect life and property.
- b. Increase public awareness of hazards and mitigation opportunities.
- c. Protect and enhance environmental quality.
- d. Leverage partnering opportunities.
- e. Enhance planning activities.
- f. Develop and implement cost-effective mitigation strategies.
- g. Promote a sustainable economy.

Staff preparedness activities will ensure personnel can continue essential functions.

Readiness is the ability of an organization to respond to a continuity event.

Preparedness activities are undertaken to encourage and support a state of readiness in City staff, their families and loved ones, as well as the organization of the City government for all potential hazards. City preparedness also includes assuring operational capabilities before an event occurs. Specific preparedness activities include but are not limited to:

- a. Developing and maintaining the City of Kirkland's Comprehensive Emergency Management Plan.
- b. Developing threat and hazard inventories and risk analyses (THIRAs).

- c. Coordinating with other local, county, state and federal agencies to assure cohesive working relationships and compatible emergency plans.
- d. Training and exercising City employees to prepare for all aspects of response and recovery.
- e. Maintaining facilities, equipment, supplies, and vehicles in a readiness condition.
- f. Developing and adopting mutual-aid agreements and memoranda of understanding with resource providers from both the private and public sectors.

City of Kirkland continuity personnel will create and maintain go-kits. Continuity personnel are responsible for carrying the kits to the continuity facility or pre-positioning the kits at the continuity facility. A typical go-kit should contain those items listed in the table below. The City of Kirkland will implement the following procedures to maintain currency of the drive-away kits: have continuity personnel bring kits to the COOP exercise, distributing materials updated quarterly and establishing an acquisition program to regularly replace agency-supplied emergency items.

**Table 1: COOP Go-Kit**

*The following table lists suggested items for continuity go-kit contents.*

COOP Go-Kit	
<ul style="list-style-type: none"> <li>• Identification and charge cards                             <ul style="list-style-type: none"> <li>– Organization identification card</li> <li>– Drivers license</li> <li>– Health insurance card</li> <li>– Personal charge card</li> </ul> </li> <li>• Money                             <ul style="list-style-type: none"> <li>– Cash in small bills</li> </ul> </li> <li>• Communication equipment                             <ul style="list-style-type: none"> <li>– Organization cell phone and cord</li> <li>– Personal cell phone and cord</li> <li>– Charger (solar or backup)</li> </ul> </li> <li>• Hand-carried Essential Records</li> <li>• Continuity Plan</li> <li>• Directions to continuity facility</li> <li>• Maps of surrounding area</li> <li>• Business and leisure clothing (two changes)</li> <li>• Flashlight (solar, or batteries stored separately)</li> </ul>	<ul style="list-style-type: none"> <li>• Business and personal contact numbers                             <ul style="list-style-type: none"> <li>– Emergency phone numbers and addresses (relatives, medical doctor, pharmacist)</li> </ul> </li> <li>• Toiletries</li> <li>• Chargers/extra batteries for phones, GPS, and laptop</li> <li>• Bottled water and non-perishable food (i.e., granola, dried fruit, etc.)</li> <li>• Medical needs                             <ul style="list-style-type: none"> <li>– Insurance information</li> <li>– List of allergies/blood type</li> <li>– Hearing aids and extra batteries</li> <li>– Glasses and contact lenses</li> <li>– Extra pair of eyeglasses/contact lenses</li> <li>– Prescription drugs (30-day supply)</li> <li>– Over-the-counter medications, dietary supplements</li> </ul> </li> </ul>

In addition, the City of Kirkland and Office of Emergency Management will conduct the following continuity readiness and preparedness activities: senior management addresses

to the organization regarding continuity, new employee orientation training, COOP training and COOP exercise.

### **Staff Readiness and Preparedness**

**City of Kirkland** personnel will prepare for a continuity event and plan in advance for what to do in an emergency. Personnel will also develop a Family Support Plan to increase personal and family preparedness. The [www.ready.gov](http://www.ready.gov) website provides guidance for developing a Family Support Plan and includes a *Get Ready Now* pamphlet that explains the importance of planning and provides a template that can be tailored to meet family-specific planning requirements.

## **B. PLANNING SCENARIOS**

The COOP plan has been developed taking into account three separate classes of threats that may result in COOP activation. For each class, activities have been identified to ensure the activation of the COOP plan and the continuous capability of the City of Kirkland to make decisions and take action.

Activation of the COOP plan may involve:

- The deliberate and pre-planned movement of selected key personnel and technical personnel to an alternate operating facility;
- The implementation of temporary work procedures;
- The delegation of emergency authorities to successors of senior management and technical personnel due to them being unavailable during the emergency; and/or
- The assignment of COOP teams to perform specific activities necessary to ensure critical functions.

The following three threat scenarios have been identified by the Office of Emergency Management as the most likely to trigger COOP plan activation:

- **Class 1 Scenario: Single Building:** In this scenario, a portion or all of City operations are disrupted at one location, with limited displacement of operations to alternate facilities. There is limited impact on interdependencies between the City and other operations including customers, vendors and suppliers, and the event is most likely of a short to medium-term duration. The most likely causes of such a disruption are fire; system/mechanical failure; loss of utilities such as electricity, telephone, water, or steam; or explosion (regardless of cause) that produces no significant damage to any other facilities or systems used by the City.
- **Class 2 Scenario: Catastrophic Event:** This scenario assumes that an incident affects a geographic region to a cluster of King County Cities and their operations. This scenario also assumes the disruption of operations to a number of agencies, leading to a massive and widespread displacement of the workforce and a disruption to multiple interdependencies between and among agencies, as well as those with customers and critical suppliers. Disruption of normal business operations is assumed to be for an extended period of time. The City of Kirkland

Comprehensive Emergency Management Plan, provides further coordinating instructions for COOP leadership.

- **Class 3 Scenario: Pandemic Influenza:** This scenario assumes that there is a pandemic-related disruption of the workforce that is indiscriminate as far as impact, and that infrastructure is affected only to the extent that systems require maintenance and/or operation by a severely depleted workforce. A pandemic event will most likely last for 12-18 months with as many as three waves of new infections lasting 4-6 weeks each. Continuous critical function evaluation may be required. For instance, a function that may not be critical the first 3 months will become critical the 4th month. The King County Public Health Pandemic Influenza Response Plan provides further coordinating instructions.  
<http://www.kingcounty.gov/depts/health/emergency-preparedness/preparing-yourself/~media/depts/health/emergency-preparedness/documents/pandemic/pandemic-flu-response-plan.ashx>

### C. PHASE III: ACTIVATION

To ensure the ability to attain operational capability at continuity facilities and with minimal disruption to operations within 12 hours of plan activation, the City of Kirkland will execute activation plans as described in the following sections.

#### Decision Process Matrix

Based on the type and severity of the emergency situation, the City of Kirkland Continuity Plan may be activated by one of the following methods:

- (1) The Washington State Governor or King County Executive may initiate continuity activation.
- (2) The City Manager or a designated successor, may initiate the Continuity Plan activation for the entire organization, based on an emergency or threat directed at the organization.

Continuity Plan activation is a scenario-driven process that allows flexible and scalable responses to the full spectrum of all-hazards/threats that could disrupt operations with or without warning and during work or non-work hours. Continuity Plan activation will not be required for all emergencies or disruptions, since other actions may be more appropriate. The decision to activate the City of Kirkland Continuity Plan and related actions will be tailored for the situation and based on projected or actual impact and whether or not there is warning. To support the decision-making process regarding plan activation, key organization personnel will use the decision matrix below to support that process.

**Table 2: COOP Decision Matrix**

<b>Decision Matrix for Continuity Plan Implementation</b>		
	<b>Work Hours</b>	<b>Non-Work Hours</b>
<b>Notice Event</b>	<ul style="list-style-type: none"> <li>• Is the threat aimed at the facility or surrounding area?</li> <li>• Is the threat aimed at organization personnel?</li> <li>• Are employees unsafe remaining in the facility and/or area?</li> </ul>	<ul style="list-style-type: none"> <li>• Is the threat aimed at the facility or surrounding area?</li> <li>• Is the threat aimed at organization personnel?</li> <li>• Who should be notified of the threat?</li> <li>• Is it safe for employees to return to work the next day?</li> </ul>
<b>No Notice Event</b>	<ul style="list-style-type: none"> <li>• Is the facility affected?</li> <li>• Are personnel affected? Have personnel safely evacuated or are they sheltering-in-place?</li> <li>• What are instructions from first responders?</li> <li>• How soon must the organization be operational?</li> </ul>	<ul style="list-style-type: none"> <li>• Is the facility affected?</li> <li>• What are instructions from first responders?</li> <li>• How soon must the organization be operational?</li> </ul>

As the decision authority, the City Manager will be kept informed of the threat environment using all available means, including the Emergency Operations Center, King County or Zone 1 regional notification systems, local operations and State and local reporting channels and news media. The City Manager will evaluate all available information relating to:

- (1) Direction and guidance from higher authorities
- (2) The health and safety of personnel
- (3) The ability to execute essential functions
- (4) Changes in threat advisories
- (5) Intelligence reports
- (6) The potential or actual effects on communications systems, information systems, office facilities, and other vital equipment
- (7) The expected duration of the emergency situation

**Time phased COOP Implementation**

When confronting incidents which disrupt the normal operations of the City of Kirkland, the City Manager will implement the COOP utilizing the following time phased approach.

**Table 3: Time Phased COOP Implementation**

Time Phased Implementation of the COOP		
Phase	Time Frame	Activity
Phase 1 Activation and Relocation	0-12 hours	<ul style="list-style-type: none"> <li>▪ Notify alternate facility manager of impending activation and relocation requirements.</li> <li>▪ Notify affected local, regional and state agencies.</li> <li>▪ Activate plans to transfer to alternate facility.</li> <li>▪ Instruct advance team to ready alternate facility.</li> <li>▪ Notify City employees and contractors regarding activation of COOP plan and their status.</li> <li>▪ Assemble documents and equipment required for critical functions at alternate facility.</li> <li>▪ Order needed equipment or supplies.</li> <li>▪ Transport documents, equipment and designated communications.</li> <li>▪ Secure original facility.</li> <li>▪ Continue critical functions at regular facility, if available, until alternate facility is ready.</li> <li>▪ Advise alternate facility on status.</li> <li>▪ Activate advance, operations, and support teams, as necessary.</li> </ul>
Phase 2 Alternate Facility or Work Site Operations	12 hours to termination of incident	<ul style="list-style-type: none"> <li>▪ Provide guidance to contingency team personnel and information to the public.</li> <li>▪ Identify replacements for missing personnel (delegation of authority and orders of succession).</li> <li>▪ Commence full execution of operations supporting critical functions at the alternate facility.</li> </ul>
Phase 3 Reconstitution	Termination of incident	<ul style="list-style-type: none"> <li>▪ Inform all personnel that the threat no longer exists.</li> <li>▪ Supervise return to normal operating facility.</li> <li>▪ Conduct a review of COOP plan execution and effectiveness.</li> <li>▪ Update COOP plan to correct deficiencies and/or incorporate best practices.</li> </ul>

**Alert and Notification Procedures**

The City of Kirkland maintains plans and procedures for communicating and coordinating activities with personnel before, during, and after a continuity event.

Before an event, OEM or other personnel will monitor all available advisory information. In the event normal operations are interrupted or an incident appears to be imminent, the City of Kirkland will take the following steps to communicate the organization's operating status with all staff:

- (1) The City Manager or designated successor will notify all Department Directors, the Mayor and City Council members of the emergency requiring Continuity Plan activation.
- (2) Department Directors or designated successors will notify Managers who will then notify all staff in their chain of command. Methods of notification include voice, telephone, email, or Code Red. Every staff member at work the day of the activation must acknowledge receipt of the message to the individual delivering it to them by voice, telephone, email. The Directors and Managers will maintain written record of all notification processes and results.
- (3) Available members of the facilities staff will act as an advance team to prepare the continuity site for arrival.
- (4) All City of Kirkland personnel will notify family members, next of kin, and/or emergency contacts of Continuity Plan activation if communication channels are available to do so.

Upon the decision to activate the Continuity Plan, the City of Kirkland will notify all City of Kirkland personnel, as well as affected and interdependent entities with information regarding continuity activation status, operational and communications status, and the anticipated duration of relocation. These entities include:

- Continuity facilities and on-site support teams with information regarding continuity activation, relocation status, and the anticipated duration of relocation
- The King County Emergency Coordination Center with information regarding continuity activation status, the City of Kirkland's continuity facility, operational and communication status, and the anticipated duration of relocation
- All City of Kirkland employees with instructions and guidance regarding the continuity activation

### **Relocation Process**

Once the Continuity Plan is activated and personnel are notified, the City of Kirkland will relocate continuity personnel and essential records to the City of Kirkland continuity facility(ies) if necessary. The City of Kirkland continuity personnel will deploy/relocate to the continuity facility(ies) to perform the City of Kirkland's essential functions and other continuity-related tasks. A map and directions to the continuity facility will be included as part of the COOP training.

Emergency procedures during work hours with or without a warning will be implemented as follows:

- Continuity personnel, including advance team personnel, will depart to the designated continuity facility from the primary operating facility or current

location using city fleet vehicles, privately owned vehicles, or by walking. Directors and Managers will develop in advance, individual evacuation plans for continuity employees with disabilities

- Non-continuity personnel present at the primary operating facility or another location will receive instructions from the City Manager, their department Director or Manager. In most scenarios, non-continuity personnel will be directed to proceed to their homes or other City of Kirkland facilities to wait for further guidance.
- At the time of notification, if available, information will be provided regarding safety precautions and routes to use when leaving the primary operating facility.

Emergency procedures during non-working hours with or without a warning will be implemented as follows:

- Within 3 hours - Advance team members will deploy to the designated continuity facility from their current location using city fleet vehicles, privately owned vehicles, or by walking. Directors and Managers will develop in advance, individual evacuation plans for continuity employees with disabilities
- Within 6 hours - Continuity personnel will depart to the assigned continuity facility from their current location using city fleet vehicles, privately owned vehicles, or by walking. Directors and Managers will develop in advance, individual evacuation plans for continuity employees with disabilities
- Non-continuity personnel will remain at their residence or other designated facility to wait for further instructions.

Non-continuity personnel may be required to replace or augment continuity personnel during activation. These activities will be coordinated by the Department Director with the replacement staff on a case-by-case basis. Non-continuity personnel will remain available to replace or augment continuity personnel, as required.

Department Directors or Managers will direct the City of Kirkland's non-continuity personnel to move to another pre-determined facility, duty station, or home until further notice.

In the event of an activation of the Continuity Plan, the City may need to procure necessary personnel, equipment, and supplies that are not already in place for continuity operations on an emergency basis. The Finance and Administration Department maintains the authority for emergency procurement.

#### **D. Phase IV: Continuity Operations**

Upon activation of the Continuity Plan, the City of Kirkland will continue to operate at its primary operating facility until ordered to cease operations by the City Manager using any available forms of communication including voice, email, phone, or Code Red. At that time, essential functions will transfer to the continuity facility. The City should ensure that the continuity plan can be operational within 12 hours of plan activation.

The advance team will be first to arrive at the continuity facility to prepare the site for the arrival of the continuity personnel. Upon arrival at the continuity facility, **the advance team** will:

- Ensure infrastructure systems, such as power and heating, ventilating, and air conditioning are functional
- Prepare check-in duty stations for Emergency Relocation Group arrival
- Address telephone inquiries from Emergency Relocation Group and non-ERG staff

As continuity personnel arrive, the Emergency Relocation Group leader will assign an administrative group member to conduct in-processing to ensure accountability. In-processing procedures are conducted at the front door and will include: obtaining the roster of continuity personnel, checking in each member noting the time of arrival and using the COOP roster to call or send a Code Red or email message to individuals who have not in-processed for accountability.

Upon arrival at the continuity facility, the City of Kirkland continuity personnel will:

- Report immediately to the Kirkland Justice Center for check-in and in-processing
- Receive all applicable instructions and equipment
- Report to their respective workspace as identified in Kirkland Justice Center or as otherwise notified during the activation process
- Retrieve pre-positioned information and activate specialized systems or equipment
- Monitor the status of City of Kirkland's personnel and resources
- Continue City of Kirkland's essential functions
- Prepare and disseminate instructions and reports, as required
- Comply with any additional continuity reporting requirements with the City of Kirkland
- Notify family members, next of kin, and emergency contacts of preferred contact methods and information

A requirement of continuity personnel is to account for all City of Kirkland personnel. The City of Kirkland will use the following processes to account for all personnel:

- Department Directors will have a current organizational chart of all employees with two ways of communicating with each, email and telephone. Administrative Assistants for each Director will conduct a roll call for the department identifying two items
  - The employee is safe
  - The employee's location
- Within one hour of the incident inducing a COOP the Administrative Assistant will report on the status of all employees

- Employees who cannot be located will be reported to City Human Resources Department who will begin a second location process. Employees not located within three hours will be reported to Kirkland Police

During continuity operations, the City of Kirkland may need to acquire necessary personnel, equipment, and supplies on an emergency basis to sustain operations for up to 30 days or until normal operations can be resumed. The Finance and Administration Department maintains the authority for emergency acquisition.

### **E. Phase V: Reconstitution Operations**

Within 24 hours of an emergency relocation, the following individuals will initiate and coordinate operations to salvage, restore, and recover the City of Kirkland primary operating facility after receiving approval from the appropriate State and local law enforcement and emergency services:

- The Facilities Manager will serve as the Reconstitution Manager for all phases of the reconstitution process
- Each City of Kirkland Department will designate a reconstitution point-of-contact (POC) to work with the Reconstitution Team and to update office personnel on developments regarding reconstitution and provide names of reconstitution POCs to the Office of Emergency Management within 12 hours of the COOP activation.

During continuity operations, the Facilities Manager should determine the status of the primary operating facility affected by the event by a site visit, Fire Department or Police Department report, or photographs. Upon obtaining the status of the facility, City of Kirkland will determine how much time is needed to repair the primary operating facility and/or acquire a new facility. This determination is made in conjunction with the City Manager and City Council. Should the City decide to repair the facility, the Facilities Manager has the responsibility of supervising the repair process and should notify Kirkland City Council of the status of repairs, including estimates of when the repairs will be completed.

Reconstitution will commence when the City Manager or other authorized person ascertains that the emergency situation has ended and is unlikely to reoccur. These reconstitution plans are viable regardless of the level of disruption that originally prompted implementation of the Continuity Plan. Once the City Manager has made this determination in coordination with other State, local and/or other applicable authorities, one or a combination of the following options may be implemented, depending on the situation:

- Continue to operate from the continuity facility
- Reconstitute the City of Kirkland primary operating facility and begin an orderly return to the facility
- Begin to establish a reconstituted City of Kirkland in another facility or at another designated location

Before relocating to the primary operating facility or another facility, the Fire Department, Police Department and Risk Analyst will conduct appropriate security, safety, and health assessments to determine building suitability. In addition, the Chief Information Officer will verify that all systems, communications, and other required capabilities are available and operational and that the City of Kirkland is fully capable of accomplishing all essential functions and operations at the new or restored primary operating facility.

Upon a decision by the City Manager or other authorized person that the City of Kirkland primary operating facility can be reoccupied or that City will be reestablished in a different facility:

- The City Manager or other authorized individual should notify the Department Directors when available, and other applicable operations centers with information regarding continuity activation status, the City of Kirkland continuity facility, operational and communication status, and anticipated duration of relocation.
- The Facilities Manager will develop space allocation and facility requirements.
- The Emergency Manager will notify all personnel that the emergency or threat of emergency has passed and actions required of personnel in the reconstitution process using voice, phone, email, or Code Red.
- The Facilities Manager will coordinate with the City of Kirkland and/or other applicable facility management group to obtain office space for reconstitution, if the primary operating facility is uninhabitable.
- The Director of Human Resources will develop procedures, as necessary, for restructuring staff.

Upon verification that the required capabilities are available and operational and that the City of Kirkland is fully capable of accomplishing all essential functions and operations at the new or restored facility, the Facilities Manager will begin supervising a return of personnel, equipment, and documents to the primary operating facility or a move to a temporary or new permanent primary operating facility. The phase-down and return of personnel, functions, and equipment will follow the priority-based plan and schedule. The Facilities Manager will develop return plans based on the incident and facility within 36 hours of the City Manager's Directive to return to the original facility.

The City of Kirkland will continue to operate at its continuity facility until ordered to cease operations by the City Manager's Office, using voice, email, phone, or Code Red communication systems. At that time, essential functions will transfer to the primary operating facility. Department Directors will develop resumption plans based on the incident and facility within 36 hours of the City Manager's Directive to return to the original facility.

The Department of Finance and Administration will identify any records affected by the incident by hand or through photographic evidence. In addition, the Department of Finance and Administration will effectively transition or recover Essential Records and databases, as well as other records that had not been designated as Essential Records, using the plan outlined below; the City of Kirkland will develop Essential Records transition and recovery plans based on the incident and facility within 36 hours of the City Manager's Directive to return to the original facility.

When the continuity personnel, equipment, and documents are in place at the new or restored primary operating facility, the remaining City of Kirkland staff at the continuity facility or devolution site will transfer essential functions, cease operations, and deploy to the new or restored primary operating facility. The Office of Emergency Management with support of Facilities and IT, will oversee the orderly transition from the continuity facility of all City of Kirkland functions, personnel, equipment, and records to a new or restored primary operating facility. The Human Resources Department will develop a process for receiving and processing employee claims during the continuity event, including processing Human Resources claims (such as, Workers' Compensation, compensation for injuries, overtime pay, etc) and replacing lost or broken equipment.

The Office of Emergency Management will conduct an After Action Review (AAR) once back in the primary operating facility or in a new primary operating facility. The Emergency Manager is responsible for initiating and completing the AAR and all offices within City will have the opportunity to provide input to the report. The AAR will address the effectiveness of the continuity plans and procedures, identify areas for improvement, document these in the City of Kirkland Corrective Action Program (CAP), and then develop a remedial action plan as soon as possible after the reconstitution. The Department Directors under the guidance of the City Manager are responsible for documenting areas for improvement in the CAP and developing a remedial action plan. In addition, the AAR will identify which, if any, records were affected by the incident, and will work with the City Attorney to ensure an effective transition or recovery of Essential Records and databases and other records that had not been designated as Essential Records. AAR and CAP documentation are maintained by the Office of Emergency Management and are found stored on the H Drive for access.

## F. DEVOLUTION OF CONTROL AND DIRECTION

**The City of Kirkland is prepared to transfer all of its essential functions and responsibilities to personnel at a different location, the Kirkland Justice Center, should emergency events render leadership or staff unavailable to support the execution of the City's essential functions. If deployment of continuity personnel is not feasible due to the unavailability of personnel, temporary leadership of the City of Kirkland will devolve to Fire Station 26.**

The Office of Emergency Management maintains responsibility for ensuring the currency of the City of Kirkland Devolution plan. The devolution plan:

- (1) Includes the elements of a viable continuity capability: program plans and procedures, budgeting and acquisitions, essential functions, orders of succession and delegations of authority specific to the devolution site, interoperable communications, Essential Records management, staff, training, exercises, and reconstitution. A comparison of the COOP and devolution plan is outlined in *Table 4*
- (2) Identifies prioritized essential functions, defines tasks that support those essential functions, and determines the necessary resources to facilitate those functions.
- (3) Includes a roster that identifies fully equipped and trained personnel who will be stationed at the designated devolution site and have the authority to perform essential functions and activities when the devolution option of the Continuity Plan is activated.

- (4) Identifies what would likely activate or trigger the devolution option and specifies how and when control and direction of the City of Kirkland operations will be transferred to and from the devolution site.
- (5) Lists or references the necessary resources (i.e., equipment and materials) to facilitate the immediate and seamless transfer of and performance of essential functions at the devolution site.
- (6) Establishes and maintains reliable processes and procedures for acquiring the resources necessary to continue essential functions and to sustain those operations for extended periods. Facilities and IT departments are responsible for acquiring resources during a devolution situation.
- (7) Establishes and maintains a capability to restore or reconstitute the City of Kirkland authorities to their pre-event status upon termination of devolution.

City of Kirkland conducts and documents annual training of devolution staff and a biennial exercise to ensure essential functions are capable of being performed during devolution. The City of Kirkland devolution training and exercises documentation is maintained by the Office of Emergency Management.

**Table 4: Comparison of Continuity of Operations Plan and Devolution of Operations Plan**

Relationship Between the Continuity of Operations Plan (COOP) and the Devolution of Operations Plan (DEVOP)		
	Continuity of Operations Plan (COOP)	Devolution of Operations Plan (DEVOP)
<b>Concept</b>	Relocate existing staff to the Kirkland Justice Center	Transfer the continuity mission to a small team of senior leaders and relocate to Fire Station 26
<b>Planning</b>	Continuity personnel will perform essential functions at the KJC	Devolution site group will perform essential functions
<b>Triggering Event</b>	Incident Occurs or Imminent Threat Conditions exist <ul style="list-style-type: none"> <li>• Senior leadership or successor determines City Hall or other City facilities are not viable for mission support.</li> <li>• Senior leadership or successor activates the COOP accordingly.</li> </ul>	Incident Occurs or Imminent Threat Conditions exist <u>Active Trigger:</u> A deliberate decision by senior leaders to activate the devolution plan <u>Passive Trigger:</u> When senior leadership is unavailable to initiate activation and the Devolution Team Director learns of a catastrophic incident occurring at City Hall
<b>Implementation</b>	Continuity personnel deploy to the Kirkland Justice Center to perform essential functions	Devolution site personnel perform essential functions at Fire Station 26

## **G. PROCEDURES FOR DEVOLVING ESSENTIAL FUNCTIONS TO DEVOLUTION GROUP AT DEVOLUTION SITE**

The transition of Essential Functions to the Devolution Group and the Devolution site is an important step and may be conducted with warning or without warning. The City has taken the following steps to prepare in advance for devolving to the DERG at the Devolution site:

Upon arrival at the devolution site, the City of Kirkland continuity personnel will:

- Report immediately and check-in
- Receive all applicable instructions and equipment
- Report to their respective workspaces
- Retrieve pre-positioned information and activate specialized systems or equipment
- Monitor the status of City of Kirkland's personnel and resources
- Continue City of Kirkland's essential functions
- Prepare and disseminate instructions and reports, as required
- Comply with any additional continuity reporting requirements with the City of Kirkland
- Notify family members, next of kin, and emergency contacts of preferred contact methods and information

A requirement of continuity personnel is to account for all City of Kirkland personnel. The City of Kirkland will use the following processes to account for all personnel:

- Department Directors will have a current organizational chart of all employees with two ways of communicating with each, email and telephone. Administrative Assistants for each Director will conduct a roll call for the department identifying two items
  - The employee is safe
  - The employee's location
- Within one hour of the incident the Administrative Assistant will report on the status of all employees
- Employees who cannot be located will be reported to City Human Resources Department who will begin a second roll call process. Employees not located within three hours will be reported to Kirkland Police.

During continuity operations, the City of Kirkland may need to acquire necessary personnel, equipment, and supplies on an emergency basis to sustain operations for up to 30 days or until normal operations can be resumed. The Finance and Administration Department maintains the authority for emergency acquisition.

## **VII. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES**

Key staff positions within the City of Kirkland, to include individual continuity members, those identified in the orders of succession and delegation of authority, the City Continuity

Coordinator, continuity managers, and others possess additional continuity responsibilities. The responsibilities of these key continuity personnel are delineated in the following table.

**Table 5: COOP Team Positions and Responsibilities**

Position	Responsibilities
Director	<ul style="list-style-type: none"> <li>• Provide strategic leadership and overarching policy direction for the continuity program</li> <li>• Implement the Continuity Plan when necessary, or when directed by a higher authority</li> <li>• Update and promulgate orders of succession and delegations of authority</li> <li>• Ensure adequate funding is available for emergency operations</li> <li>• Ensure all organization components participate in continuity exercises</li> <li>• Update Continuity Plan annually</li> </ul>
Communications Manager	<ul style="list-style-type: none"> <li>• Update telephone rosters monthly</li> <li>• Conduct alert and notification tests</li> </ul>
Records Manager	<ul style="list-style-type: none"> <li>• Review status of Essential Records, files, and databases</li> </ul>
COOP Team Members	<ul style="list-style-type: none"> <li>• Be prepared to deploy and support organization essential functions in the event of Continuity Plan implementation</li> <li>• Provide current contact information to manager</li> <li>• Be familiar with continuity planning and know individual roles and responsibilities in the event of Continuity Plan activation</li> <li>• Participate in continuity training and exercises as directed</li> <li>• Have a telework agreement for this position, if applicable</li> </ul>
Safety and Security Manager	<ul style="list-style-type: none"> <li>• Ensure the site location is safe and mitigated for risk</li> <li>• Deploy badging and check-in/check-out procedures for all personnel</li> </ul>

**The City Manager, all Department Directors, and Manager’s**

- Implements the COOP plan;
- Provides policy direction, guidance, and objectives during the implementation of the COOP plan;
- Consults with and advises appropriate officials during implementation of the COOP plan; and
- Serves as the principal department representative to external parties and groups during implementation of the COOP plan.

**Department COOP Coordinator and Reconstitution Manager**

- Serves as the department COOP plan point of contact;
- Coordinates implementation of the COOP plan and initiates appropriate notifications inside and outside the department;

- Aids COOP Team efforts at the alternate location;
- Initiates recovery of the department as part of reconstitution;
- Identifies essential functions to be performed when any part of the department is relocated;
- Identifies those functions that can be deferred or temporarily terminated;
- Designates personnel to assist security officials in securing office equipment and files at department locations when implementing the COOP plan;
- Prepares site support plans to support the implementation of the COOP plan;
- Designates personnel responsible to assist the key personnel arriving at the alternate facility;
- Support periodic coordination visits by the Office of Emergency Management; and
- Coordinates appropriate lodging, food, and other arrangements with the alternate facility location if appropriate, for personnel who are not commuting and need to remain overnight near the alternate facility location.
- Forms a department specific reconstitution team;
- Develops space allocation and facility requirements to support essential functions;
- Coordinates with the Office of Emergency Management and Facilities to find suitable space if the primary facility is not available;
- Develops a time-phased plan, listing functions and projects in order of priority for resuming normal operations;
- Develops procedures, as necessary, for restructuring personnel; and
- Ensures the building is structurally safe and that it meets all occupancy regulations.

#### **Department Personnel**

- Understanding their continuity roles and responsibilities within the department;
- Knowing and being committed to their duties in a continuity environment;
- Understanding and being willing to perform in continuity situations to ensure the City Manager's Office can continue its essential functions.
- Ensuring that loved ones are prepared for and taken care of in an emergency situation.

### **VIII. DIRECTION, CONTROL, AND COORDINATION**

During activation of the Continuity Plan, the City Manager maintains responsibility for control and direction of the City of Kirkland. Should the City Manager become unavailable or incapacitated; the organization will follow the directions laid out in Table 6: COOP - Lines of Succession.

The contents and procedures laid forth in this Continuity Plan are consistent with the direction found in FEMA's Continuity Guidance for Non-Federal Agencies, and the plan is reviewed and vetted by the Kirkland Fire Chief, as-well-as and the King County Emergency Management Planning Lead, to ensure appropriateness.

#### **Table 6: COOP Lines of Succession and Delegation of Authority**

COOP Lines of Succession and Delegation of Authority	
Category	Order of Succession and Delegation of Authority
<b>City Council</b>	<ol style="list-style-type: none"> <li>1. Mayor</li> <li>2. Deputy Mayor</li> <li>3. City Council</li> </ol>
<b>City Manager’s Office</b>	<ol style="list-style-type: none"> <li>1. City Manager</li> <li>2. Deputy City Manager(s)</li> <li>3. Intergovernmental Manager</li> </ol>
<b>City Attorney’s Office</b>	<ol style="list-style-type: none"> <li>1. City Attorney</li> <li>2. Assistant City Attorney</li> </ol>
<b>Court</b>	<ol style="list-style-type: none"> <li>1. Judge</li> <li>2. Court Administrator</li> <li>3. Court Supervisor</li> </ol>
<b>Finance and Administration Department</b>	<ol style="list-style-type: none"> <li>1. Finance Director</li> <li>2. Financial Planning Manager</li> <li>3. City Clerk</li> </ol>
<b>Fire Department</b>	<ol style="list-style-type: none"> <li>1. Fire Chief</li> <li>2. Deputy Fire Chief</li> <li>3. Battalion Chief</li> <li>4. Ranking Officer</li> </ol>
<b>Human Resources Department</b>	<ol style="list-style-type: none"> <li>1. Human Resources Director</li> <li>2. Senior Human Resources Analyst</li> <li>3. Safety and Risk Analyst</li> </ol>
<b>Information Technology</b>	<ol style="list-style-type: none"> <li>1. Information Technology Director</li> <li>2. Information Technology Network and Operations Manager</li> <li>3. Multi-Media Communications Manager</li> <li>4. GIS Administrator</li> </ol>
<b>Parks &amp; Community Services</b>	<ol style="list-style-type: none"> <li>1. Director</li> <li>2. Deputy Director</li> <li>3. Parks Planning &amp; Development Manager</li> <li>4. Parks Operation Manager</li> <li>5. Business Services Manager</li> <li>6. Recreation Services Manager</li> </ol>
<b>Planning and Building Department</b>	<ol style="list-style-type: none"> <li>1. Director</li> <li>2. Deputy Director</li> <li>3. Development Review Manager</li> </ol>
<b>Police Department</b>	<ol style="list-style-type: none"> <li>1. Police Chief</li> <li>2. Captain</li> <li>3. Lieutenant</li> <li>4. Corporal</li> </ol>

<b>Public Works</b>	<ol style="list-style-type: none"> <li>1. Director</li> <li>2. Deputy Director</li> <li>3. Streets Division Manager</li> <li>4. Development Engineering Manager</li> <li>5. Transportation Engineering Manager</li> <li>6. Capital Projects Manager</li> <li>7. Surface &amp; Wastewater Manager</li> <li>8. Water Manager</li> </ol>
---------------------	---

**IX. DISASTER INTELLIGENCE**

During a continuity event, the City of Kirkland will require the collection and dissemination of critical information. While specific incidents may create additional or specialized reporting requirements, the following table lists examples of the information that will be collected and reported regardless of incident type.

**Table 7: Disaster Intelligence Requirements during a COOP Activation**

Information Element	Specific Requirement	Responsible Element	Deliverables	When Needed	Distribution
<b>Personnel Accountability</b>	Account for all Emergency Relocation Group (ERG) and non-ERG employees  Account for all contract personnel	Human Resources Division	Reports  Briefings	Status updates hourly following Plan activation	Director of Human Resources
<b>Operational Status</b>	Percent of ERG personnel arrived at site  Ability to conduct each essential function	Continuity Manager  Division Representatives	Situation briefings  Situation reports	No later than 6 hours after plan activation, then hourly	Emergency Manager and All Department Directors
<b>Hazard Information</b>	Threat details specific to the continuity facility	Response coordination center or emergency operations center	Situation briefings  Situation reports	Two times per day at shift change	All Department Directors and Managers

**X. COMMUNICATIONS**

The ability of the City to execute its essential functions at its continuity facility depends on the identification, availability, and redundancy of critical communications and IT systems to support connectivity among key State, Tribal, County, and Local leadership personnel, internal departments, other organizations, critical customers, emergency management volunteers, and the public during crisis and disaster conditions.

The City of Kirkland has available and redundant critical communication systems at the Kirkland Justice Center, the COOP continuity facility. Further, the City maintains fully capable continuity communications that will support organization needs during all hazards and related emergencies, and give full consideration to supporting social distancing operations including telework and other virtual offices.

All City of Kirkland’s necessary and required communications and IT capabilities should be operational within 12 hours of continuity activation.

**Table 8: Continuity Communications**

COOP Continuity Communications					
Communication System	Support to Essential Function	Current Provider	Specifications	Alternate Provider	Special Notes
Non-secure Phones	Primary form of City staff communication		Landline Or Cable connected		Public and employee Emergency Information Hotline
Secure Phones					Not available
Fax Lines					
Cellular Phones	Primary form of City staff communication	City owned cell phones provided by	Directors and Managers have access but not all staff	Providers vary	<ul style="list-style-type: none"> <li>Highly vulnerable system</li> </ul>
Satellite Phone					Not available
e-mail	Primary form of City staff communication				Highly vulnerable system
800 MGH Radio	Fire and Police channels				Police and Fire Personnel use only
HAM Radio		KECT Volunteers	At each Fire Station, Stone Soup Centers, EOC, and Maintenance Center	Lake Washington HAM Club	<ul style="list-style-type: none"> <li>Not currently at the Kirkland Justice Center</li> <li>Linked to repeater systems</li> </ul>
FRS (Family Radio Service)			Walkie-Talkie system		Just-in-time training is available if required

## **XI. BUDGETING AND ACQUISITION OF RESOURCES**

The City of Kirkland budgets for and acquires those resources and capabilities essential to continuity operations. The City of Kirkland budgets for continuity resources and capabilities and provides for the acquisition of those resources necessary for continuity operations on an emergency basis for up to 30 days or until normal operations can be resumed.

As part of the budget process, the City of Kirkland uses a risk management methodology to identify, prioritize, and justify the allocation of budgetary resources. The risk management methodology used and a copy of the risk management documents can be found in the Human Resources Department.

The City of Kirkland integrates the continuity budget with its long-term strategic plan and links the budget directly to objectives and metrics set forth in that plan. A copy of the strategic plan is found on the City's H drive.

For those contracts vital to the support of organization essential functions, the City of Kirkland has ensured contractor statements of work include the provision to provide staffing, services, and resources during emergency conditions. A list of vital contracts is found at on the City H drive and maintained by the Finance and Administration Department. During an emergency situation, the Finance and Administration Director is responsible for oversight and handling of emergency work by contractors.

## **XII. PLAN DEVELOPMENT AND MAINTENANCE**

The Office of Emergency Management (OEM) is responsible for maintaining the City of Kirkland Continuity of Operations Plan.

The Continuity of Operations Plan, essential functions, and supporting activities, will be reviewed by the Office of Emergency Management and updated every two years from the date of publication as part of the maintenance of continuity plans and procedures. OEM is responsible for the annual plan review and update. In addition, the plan will be updated or modified when there are significant organizational, procedural changes, or other events that impact continuity processes or procedures. Comments or suggestions for improving this plan may be provided to the Emergency Manager.

## **XIII. AUTHORITIES**

The City of Kirkland's Continuity of Operations Plan is developed under the authority of the following local, state, and federal statutes and regulations:

1. Kirkland Municipal Code
  - a. Chapter 3.20: Emergency Management
  - b. Section 3.85.090: Emergency Procurement
2. State
  - a. RCW 35.33.081, Emergency Expenditures - Non-debatable Emergencies

- b. RCW 35A.38.010, Emergency Services - Local Organizations
  - c. RCW 38.52, Emergency Management
  - d. Chapter 118-04 WAC, Emergency Worker Program
  - e. Chapter 118-30 WAC, Local Emergency Management/Services Organizations, Plans and Programs
  - f. Chapter 296-62 WAC, General Occupational Health Standards
3. Federal
- a. 93-288, Disaster Relief Act of 1974, the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended
  - b. 96-342, Improved Civil Defense Act of 1980, as amended
  - c. 99-499, Superfund Amendments and Reauthorization Act (SARA) of 1986, Title III, Emergency Planning and Community Right to Know
  - d. 106-390 Disaster Mitigation Act of 2000 (DMA 2K)
  - e. 113-2, Sandy Recovery Improvement Act (SRIA) and Disaster Relief Appropriations Act of 2013

City officials, employees or volunteers engaged in authorized response activities on behalf of the City shall be entitled to all privileges, benefits and immunities provided by state law and state or federal regulations for registered emergency workers (WAC 118-04).

**ANNEX A.**

**ESSENTIAL FUNCTIONS**

**IDENTIFICATION OF ESSENTIAL FUNCTIONS**

The City of Kirkland’s Mission Essential Functions are based on its mission and role in support of the continued performance of essential functions for the City. These parallel Federal, State, Territorial, and Tribal Essential Functions for National Incident Management System compliance.

**Table 9: City of Kirkland Essential Functions**

City of Kirkland Essential Functions
<p><b>1. Maintain Continuity of Government</b> Ensure the continued functioning of critical government leadership elements, including: succession to key offices; organizational communications; leadership and management operations; situational awareness; personnel accountability; and functional and judicial organizations.</p>
<p><b>2. Provide Visible Leadership</b> Visible demonstration of leaders effectively dealing with the incident and leading the response efforts. To monitor the threat and provide confidence of established city government to the public.</p>
<p><b>3. Partner with the National Guard (or other deployed military forces)</b> If the WA National Guard or other military partners implement military operations to assist with response or recovery operations; the City of Kirkland will support this function.</p>
<p><b>4. Maintain Effective Relationships with Partners</b> Maintain external relationships and agreements with a wide variety of entities from the public sector, private sector, voluntary agencies, faith-based communities, and community-based organizations.</p>
<p><b>5. Maintain Law and Order</b> Maintain civil order and public safety, protect people, property and the rule of law; ensure basic civil rights, prevent crime, protect critical infrastructure.</p>
<p><b>6. Provide Emergency Services</b> Provide critical emergency services including: police, fire, emergency management, medical, search and rescue, hazmat, shelters, recovery operations.</p>

**7. Maintain Economic Stability**

Manage the overall economy of the City government. Maintain confidence in the economic, commercial, and financial institutions located in the City.

**8. Provide Basic Essential Services**

Ensure provision of basic services including: water power, health care, communications, transportation services, sanitation services, and environmental protection to sustain the population and facilitate the return to normalcy.

**Department Mission Essential Functions**

Each Department has identified and prioritized its Mission Essential Functions (MEFs) to ensure the continued performance. These are a limited set of each department’s functions that must be continued throughout, or resumed rapidly after, a disruption of normal activities.

**Table 10: City Manager’s Office Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Implement City Council Policies and Procedures</b>	Provides overall direction and control for developing plans and coordinating programs confirmed by the City Council	Kurt Triplett Marilynne Beard Tracey Dunlap Kevin Raymond (CAO)		Municipal Codes	Computer Telephone	Internet access	Report to COOP location within 12 hours
<b>Inter-governmental Relations</b>	Coordinates and monitors activities and legislative actions with federal, tribal, state, and other local governments and public agencies	Lorrie McKay Kurt Triplett Marilynne Beard Tracey Dunlap	Lobbyist		Computer Telephone	Internet access	Report to COOP location between 12 & 24 hours
<b>Public Information</b>	Strategic communication with internal and external publics on city related news and information	Communication Program Mgr. Communication Program Spec.		Media Contact List	Computer Telephone	Internet access	Report to COOP location within 12 hours
<b>Economic Development</b>	Fosters a positive environment for business development and sustainability	Ellen Miller Wolfe Philly Marsh	Duncan Malloy (contractor)	Business License Database	Computer Telephone	Internet access	Report to COOP location within 36
<b>Community Relations</b>	Volunteer and Neighborhood Coordination	Kari Page Patrick Tefft Lorrie McKay		List Serve	Computer Telephone	Internet access	Report to COOP location between 12 & 24 hours

**Table 11: City Attorney’s Office Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equip-ment	Systems	Recovery Time Objective
<b>Legal Advice</b>	Drafts, writes, or reviews documents, agreements, contracts or proclamations and provides direct legal device to city departments	City Attorney  Assistant City Attorney			Computer Telephone	Internet access	Report to location between 12 & 24 hours
	Provide coordination with ABA and WBA as needed		ABA WBA				48 hours
	Provide documentation and coordinate insurance claims information with the Finance Dept.						48 hours
	Analyzes legislation affecting the City, the City Attorney's Office and other legal matters; may testify before State or Federal legislative bodies on civil or criminal proceedings.						0 -12 hours

**Table 12: Courts Office and Supporting Resources Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Court Hearings</b>	A proceeding before the court such as arraignments and sentencing that implement public law	Judge Clerk Security	Audio Recording Attorneys Victim Advocate Probation Officer Youth Council	Case Files	Computer Telephone	LUMIS Law Base JIS FTR Trim ENCOUR T JABS 1.Lingua  Internet access	0-3 days
<b>Jury Trial</b>	A legal proceeding where a jury makes decision which directs the actions of a judge.	Jurist Judge Clerk Security	Audio Recording Attorneys Victim Advocate Probation Officer	Case Files	Computer Telephone	Internet access	3 - 7 days
<b>Arrest Warrants</b>	A document issued by a judge on behalf of the state that authorizes the arrest and detention of an individual	Judge			Computer Telephone	Internet access	0-3 days
<b>Search Warrant</b>	A document issued by a judge on behalf of the state that authorizes the search and seizure of an individual's property	Judge			Computer Telephone	Internet access	0-3 days
<b>Payments</b>	Receipt of bail or restitution related to court costs, fees, or fines.				Computer Telephone	Internet access	0-3 days

**Table 13: Facilities Office Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Conduct city site vulnerability assessment</b>	Analyze the condition, monitor and maintain safe city facilities	Facilities Manager  Lead Technician				Phone Computer	0-12 hours
<b>Immediate response and repair</b>	Fix, mend, or service items owned or used by the city. Make corrective actions to mitigate loss or danger	Facilities Services and Technicians			Tools Vehicles		0-12 hours
<b>Long term project support</b>	Assist city staff and outside consultants with contracts and specifications for facility improvements and building system upgrades	Facilities Manager  Facilities Services  Maintenance & Inventory Control			Tools	Phone Computer Internet	48-72 hours
<b>Preventative maintenance</b>	Monitor and assess the preventative maintenance program to minimize unanticipated interruption to operations	Facilities Manager  Technicians			Tools		0-12 hours

**Table 14: Finance and Administration Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Employee Payroll and Benefits</b>	Assure continuity of payroll for city employees	Payroll Coordinator - Cheryl Patterson  Senior Accounting Associates - Kristen Crisman - Amy Burgos	US Bank  Sunguard	US Bank  Sunguard	Compatible Payroll Check Printer  Computer Phone	IFAS  Telestaff Internet Access	0-12 hours
<b>Pay Vendors</b>	Cost accounting procedures for settling bills due merchants who have provided goods and services to the city	Accounting Support Associate IV - Carmine Anderson	Sunguard		Computer Phone	Internet Access	5 days
<b>Purchasing</b>	Procuring materials and professional services for the city	Purchasing Agent - Barry Scott  Buyer - Sheila Sigmond	Bank of America  US Bank Sunguard		Computer Phone Purchase Cards	Internet Access	12 hours
<b>Manage Money</b>	Ensure there is cash available for the functioning of the city	Treasurer - Michael Olson  Senior Accountant - Nancy Otterholt	US Bank Sunguard		Computer Phone	Internet Access	12 hours
<b>Record Keeping</b>	Management and reporting of the city's official information	City Clerk - Kathi Anderson Deputy City Clerk - Anja Mullin		TRIM	Computer Phone	TRIM Outlook Internet Access	2 weeks

**Table 15: Fire Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Fire Response Inspection and Prevention</b>	Conduct preliminary evaluation of incident type and responds, inspects buildings for code compliance, assists community with fire mitigation	Fire Operations Fire Administration Firefighters Fire Marshal Fire Investigation Team			Fire engines Aid Cars 800 MHz radios		0-12 hours
<b>Hazardous Materials</b>	Protect life and property and minimize environmental impact by identifying and responding appropriately to the specific material present	Fire Operations Fire Administration Firefighters with specialized training			Specialized clothing, equipment, and clean up materials 800 MHz radios		0-12 hours
<b>Rescue</b>	Assists, hoists, carries or drags victims from emergency area using rescue equipment	Fire Operations Fire Administration Firefighters with specialized training			Ladders harnesses, ropes, watercraft 800 MHz radios		0-12 hours
<b>Medical Aid</b>	Provides direct medical assistance to persons requiring emergency attention	Fire Operations Fire Administration Firefighters with specialized training EMS Officer			Aid Car 800 MHz radios		0-12 hours

**Table 16: Human Resources Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Risk and Safety</b>	Conduct just in time safety training for employees and volunteers	Kathy Joyner Shawn Friang	WCIA	L&I files	Computer Telephone	Internet	12-24 hours
<b>Establish and Maintain HR Policies</b>	To consult on human resources and personnel issues and polices To fulfill requests for additional personnel from City Departments	Jim Lopez Rod Lank	-	Personnel files	Computer Telephone	Internet	12-24 hours
<b>Adopt and Enforce ADA Policy Compliance</b>	Ensure city wide compliance with the ADA	Shawn Friang Kathy Joyner	Consultant	-	Computer Telephone	-	12-24 Hours

**Table 17: IT Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Communications</b>	Types and kinds of platforms used by city employees to get information to and from users of the systems	<b>Phones</b> - Carsten Hasse - Chuck Saunders <b>Internet Access</b> - Network team <b>Web Sites</b> - Rob Mullin - Terry Creighton <b>Broadcast System</b> - Mike Connor <b>E-Mail</b> - Carsten Hasse - Network team	-Cisco -Microsoft -King County -I-Net		Computer Telephone	Internet	12 and 24 hours
<b>Applications</b>	End-user programs for city employees	<b>GIS</b> - Xiaoning Jiang - GIS Team <b>IFAS</b> - Lyanne Ma	ESRI		Computer Telephone	Internet	12 and 24 hours
<b>Infrastructure</b>	This is the hardware platform that hosts IT workload enabling city employees to access and make use of data services	Network Connectivity Servers Computers Routers Switches Firewalls - Network Team	-Cisco -Lenovo -Dell -Microsoft		Computer Telephone	Internet	12 and 24 hours
<b>Technical Support</b>	Help and advice service provided to users of technology	IT Department - issue specific			Computer Telephone	Internet	0-12 hours

**Table 18: Parks and Community Service Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equip-ment	Systems	Recovery Time Objective
<b>Parks Operations</b>	Protect, preserve, and enrich public lands in the City	1. Lynn Zwaagstra 2. Jason Filiand			Computer Telephone	Internet access TRIM Lucinity EQupt	0-12 hours
<b>Human Services</b>	Facilitator, liaison, coordinator, and funder of basic needs for individuals and families	1. Leslie Miller 2. Michael Cogle		Grant Recipient List	Computer Telephone	Internet access TRIM	0-36 hours
<b>Recreation Programs and Services</b>	Enhance the quality of life for the whole community through learning and sports activities	1. Linda Murphy			Computer Telephone	Internet access	0-48 hours

**Table 19: Police Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Crime Prevention and Law Enforcement</b>	Respond to crimes in progress, traffic issues Conducts community education						0-12 hours
<b>Investigations</b>	Criminal investigations of felony and misdemeanor crimes						12 hours
<b>Records</b>	Records maintenance, processing documents, and communicating with the public					Internet access	12 hours
<b>Corrections</b>	Booking, housing, and transportation of prisoners and maintaining security of the correctional facility						0-12 hours
<b>Community Services</b>	Crime prevention, school resource and neighborhood resource programs, family and youth advocate						0-12 hours

**Table 20: Planning and Building Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Long Range Planning</b>	Prepare comprehensive and neighborhood planning	1. Paul Stewart 2. Eric Shields	Planning Commission	Comprehensive Plan Zoning Code Municipal Code	Computer Telephone	Internet access	0-12 hours
<b>Code Enforcement</b>	Respond to citizen complaints on code violation and for certain types to seek abatement	1. Craig Salzman 2. Penny Skovold 3. John Regala		Zoning Code Municipal Code	Computer Telephone	Internet access ENERGov	12- 24 hours
<b>Current Planning</b>	Review development activity for compliance with city code and development code	1. Jeremy McMahan 2. John Regala 3. Dawn Nelson	Contract Arborist	Zoning Code Municipal Code Comprehensive Plan Shoreline Master Program	Computer Telephone	Internet access ENERGov MyBuildingPermit.com	12 – 24 hours
<b>Building Inspection</b>	Permit, inspect, condemn construction activity and buildings	1. Tom Phillips 2. Tom Jensen 3. Clell Mason		Building Codes	Computer Telephone	Internet Access MyBuildingPermit.com	12- 24 hours

**Table 21: Public Works Department Mission Essential Functions**

Essential Function	Essential Function Description	Key Personnel and Back Up	Vendors and External Contacts	Vital Records	Equipment	Systems	Recovery Time Objective
<b>Water Sewer Surface Water</b>	Telemetry – Overall monitoring of the water system Ensuring efficient water distribution to the public	Josh P. Greg N. Erin D.	D.O.H. E.P.A. Contractors	GIS Maintenance Management Systems Hansen Lucy	Generator Computer Phone Radio Vehicles Tools	Internet	0 -12 hours for personnel arrival 1 week for service restoration
<b>Streets</b>	Sidewalks  Transportation Traffic signals	Bobbi W. Mark B.  Piash W Brian D Dan R.		""	Computer Phone Radio Vehicles Tools		0 – 12 hours
<b>Grounds</b>	Tree Removal	Bobbi W. Shannon	Asplungh	""	<u>Bucket Truck</u> Generator Computer Phone Radio Vehicles Tools		0 – 12 hours
<b>Fleets and Equipment</b>	Fuel Service	Tim U. Ray S.	Equipment and fuel vendors	""	<u>Fuel Tanks</u> Computer Phone Radio Vehicles Tools		0 – 12 hours
<b>Development</b>	Permit Review and Approvals	Rob J. Dave S. Jenny G Rod S.		""	Computer Phone Radio Vehicles Tools		0 -12 hours for personnel arrival 1 week for permit system restoration
<b>CIP</b>	Engineering Facility Building	Dave S. Rod S.		""	Computers Phones Radio		0 – 12 hours
<b>Solid Waste Management</b>	Removal of Bio Hazards Garbage Collection	John M.		""	Vehicles Computers Phones		0 – 12 hours

## ANNEX B.

### ESSENTIAL RECORDS MANAGEMENT

*Essential Records* refers to information systems and applications, electronic and hard copy documents, references, and records, to include classified or sensitive data, needed to support MEFs during a continuity event. The City of Kirkland has incorporated its Essential Records program into the overall continuity program, plans, and procedures.

The City of Kirkland's Essential Records program incorporates into the overall continuity plan with a clear authority to include:

- Policies
- Authorities
- Procedures
- The written designation of the City of Kirkland Essential Records manager

#### Essential Records Management:

- Identifies and protects those records that specify how the organization will operate in an emergency or disaster
- Identifies those records necessary to the organization's continuing operations
- Identifies those records needed to protect the legal and financial rights of the organization

Within 12 hours of activation, continuity personnel at the continuity facility for the City should have access to the appropriate media for accessing Essential Records, including:

- A local area network
- Electronic versions of Essential Records
- Supporting information systems and data
- Internal and external email and email archives
- Paper copies of Essential Records

#### Identifying Essential Records

Each Department Director will identify records as vital to its operations, and will assigned responsibility for those records to their choice of personnel. Which may include a combination of continuity personnel, personnel in the department and or records management personnel.

Department Directors will maintain a complete inventory of Essential Records, along with the locations of and instructions on accessing those records. This inventory will be maintained in an electronic back-up form or physically offsite location to ensure continuity if the primary operating facility is damaged, destroyed, or unavailable.

Each Department will developed and maintains an Essential Records plan packet. The packet or collection includes:

- A paper copy or electronic list of the Department's key organization personnel and continuity personnel with up-to-date telephone numbers
- A Essential Records inventory with the precise locations of Essential Records
- Updates to the Essential Records

- Necessary keys or access codes
- Listing of the access requirements and sources of equipment necessary to access the records
- The City of Kirkland continuity facility locations (KJC for COOP or FS 26 for DEVOP)
- Lists of records recovery experts and vendors.
- A copy of the COOP

For the above items, the IT Department is responsible for providing access requirements and lists of sources of equipment necessary to access the records (this may include hardware and software, microfilm readers, Internet access, and/or dedicated telephone lines).

This packet will be reviewed annually by the Department Director with the date and names of the personnel conducting the review documented in writing to ensure that the information is current. The packet will be handled by the Office of Emergency Management which will be securely maintained at the continuity facilities and so it is easily accessible to appropriate personnel when needed.

### **Training and Maintenance**

The City of Kirkland Essential Records program includes a training program conducted by the Finance and Administration Department for all staff, to include periodic briefings to managers about the Essential Records program and its relationship to their Essential Records and business needs. The City of Kirkland staff training focuses on identifying, inventorying, protecting, storing, accessing, and updating the Essential Records.

The City of Kirkland Essential Records program includes an annual review of the program to address new security issues, identify problem areas, update information, and incorporate any additional Essential Records generated by new agency programs or functions or by organizational changes to existing programs or functions.

It is appropriate to conduct a review of the Essential Records program in conjunction with the City of Kirkland continuity exercises. At a minimum, City of Kirkland Essential Records are annually reviewed, rotated, or cycled so that the latest versions will be available.

**Table 22: Example of Department Essential Records, files, and databases.**

Essential Record, File, or Database	Support to Essential Function	Form of Record (e.g., hardcopy, electronic)	Pre-positioned at Continuity Facility	Hand Carried to Continuity Facility	Multiple Storage Location(s) Y/N	Maintenance Frequency
Mapping Database	Function #8	Electronic	X		Y	Monthly
Licensed Spill Cleanup Contractors List	Function #4 & 6	Hardcopy		X	N	Quarterly
Regional Dams List	Function #8	Hardcopy		X	N	Annually
Pollution/Chemical Incident Database	Function #6	Electronic	X		N	Monthly
Public and Private Sewage System Records	Function #6 & 8	Electronic	X		Y	Quarterly

## ANNEX C.

### CONTINUITY FACILITIES

#### Continuity Facility Information

The **City of Kirkland** has designated continuity facility(ies) as part of its Continuity of Operations Plan and has prepared continuity personnel for the possibility of unannounced relocation to the site(s) to continue performance of essential functions

The City of Kirkland continuity facility is located at the Kirkland Justice Center. Additional facility details are as follows:

- (1) This facility is owned by the City of Kirkland.
- (2) Entrance will be through the front door of the lobby where security will be set up for COOP Team members to check in.
- (3) Special badges will be available for COOP Team members deployed to the KJC.
- (4) Evergreen Hospital is close by
- (5) Cots, blankets, disaster food supplies, and water are all available on site from the Conex box in the parking lot maintained by the Office of Emergency Management.

Should the Kirkland Justice Center be unavailable as well as City Hall, the Devolution Team will meet at Fire Station 26.

The City of Kirkland continuity facility at the Kirkland Justice Center (KJC) provides the following in sufficient quantities to sustain operations for up to 30 days or until normal business activities can be resumed:

- (1) Space and equipment, including computer equipment and software. The continuity facility is able to accommodate 45 COOP Team personnel.
- (2) Capability to perform Mission Essential Functions within 12 hours of plan activation for up to 30 days or until normal operations can be resumed.
- (3) Reliable logistical support, services, and infrastructure systems. Details on these infrastructure systems are available at the KJC from the IT Department.
- (4) Consideration for health, safety, security, and emotional well-being of personnel. Considerations available at the KJC include: a sense of security and well-being, access to information, break rooms and hygiene facilities.
- (5) Interoperable communications for effective interaction.
- (6) Capabilities to access and use Essential Records.
- (7) Systems and configurations that are used in daily activities. IT support at the continuity facility is available.

- (8) Emergency/back-up power capability. Power capability is available from the on-site generator that has a Memo of Understanding for fuel supply from a local vendor.

### **Continuity Facility Logistics**

The City of Kirkland's continuity facilities maintain pre-positioned or detailed site preparation and activation plans in order to achieve full operational capability within 12 hours of notification. These site preparation and activation plans are located in the Office of Emergency Management Conex Box located in the parking lot of the KJC.

The **City of Kirkland** maintains a transportation support plan that describes procedures for no-notice and with-notice events.

- During a no-notice event, advance team and continuity personnel are transported to the continuity facility via personal vehicle, city owned vehicles, or public safety vehicles from the Police or Fire Departments.
- During a with-notice event, advance logistics staff and the COOP Team are transported to the continuity facility via personal vehicle, city owned vehicles, or public safety vehicles from the Police or Fire Departments.
- The Office of Emergency Management has addressed the need for housing to support continuity personnel at or near the continuity facility by providing cots and blankets for COOP Team members, the North Kirkland Community Center is available as a shelter. For a prolonged activation, an MOU will be established with a hotel within walking distance of the KJC where some rooms will be available for COOP Team members to share.

### **Continuity Facility Orientation**

The Office of Emergency Management will familiarize continuity personnel with its continuity facilities. This will be accomplished he City of Kirkland accomplishes this orientation through regularly scheduled training, drills, and exercises.

### **Continuity Facilities for Single Cite Incidents**

Should an incident happen at any of the major buildings owned by the City of Kirkland that warrants relocation, there are COOP cites for each of them. This initial COOP plan is being constructed during renovation of current facilities, and as such will need to revisit these upon completion of City Hall and the sale of the Market Street Building.

**Table 23 COOP sites for all City of Kirkland Buildings**

COOP Sites for the City of Kirkland Buildings	
City Hall	Kirkland Justice Center
Maintenance Center	Peter Kirk Community Center
Police Department	North Kirkland Community Center
Courts	Heritage Hall
Fire Stations	Other available fire stations
North Kirkland Community Center	Market Building
Peter Kirk Community Center	Market Building
Market Building	City Hall
Devolution of City Hall	Fire Station 26

**DELEGATIONS OF AUTHORITY**

Generally, the City of Kirkland pre-determined delegations of authority will take effect when normal channels of direction are disrupted and terminate when these channels have resumed. Pre-determined delegations of authority may be particularly important in a devolution scenario.

The City of Kirkland has identified the following delegations of authority: Orderly succession of officials to the position of City Manager in the case of his or her absence, a vacancy at that office, or the inability of the City Manager to act during an emergency or national security emergency. The delegation of authority for the City Manager, and all Department Directors is found in **Section II of this plan *Direction Control and Coordination* in Table 6: COOP Lines of Succession and Delegation of Authority**

The City of Kirkland’s delegations of authorities are:

- (1) Are included as Essential Records
- (2) Are written in accordance with applicable laws and organization policy ensuring that the organization’s mission essential functions are performed
- (3) Outline explicitly in a statement the authority of an official to re-delegate functions and activities, as appropriate
- (4) Delineate the limits of and any exceptions to the authority and accountability for officials
- (5) Define the circumstances, to include a devolution situation if applicable, under which delegations of authorities would take effect and would be terminated

The Office of Emergency Management (OEM) has informed those Directors who might be expected to assume authorities during a continuity situation. Further, OEM has trained those officials who might be expected to assume authorities during a continuity situation at least annually for all pre-delegated authorities for making policy determinations and all levels.

**SAMPLE:** Delegation of Authority City of Kirkland City Manager  
**Delegation Number:** [Mission Number of the incident provided by WA State Emergency Management Division]  
**Issue Date:** [Date]

DELEGATION OF AUTHORITY  
AND SUCCESSION FOR THE CITY MANAGER

**PURPOSE**

This is a delegation of authority for the continuity of essential functions through the orderly succession of officials at the **City of Kirkland** for the Office of City Manager in case of the absence, a vacancy at that office, or the inability of the City Manager to act during a disaster or national security emergency.

**DELEGATION**

I hereby delegate authority to the following officials, in the order listed below, to exercise the powers and perform the duties of the City Manager in case of my absence, inability to perform, or vacancy of the office, and until that condition ceases.

1. Deputy City Manager – Marilynne Beard
2. Deputy City Manager – Tracey Dunlap

If this position is vacant, the next designated official in the order of succession may exercise all the powers, duties, authorities, rights, and functions of the Office of the City Manager, but may not perform any function or duty required to be performed exclusively by the office holder.

3. City Attorney – Kevin Raymond

Eligibility for succession to the Office of City Manager shall be limited to officially assigned incumbents of the positions listed in the order of succession, above. Only officials specifically designated in the approved order of succession are eligible. Persons appointed on an acting basis, or on some other temporary basis, are ineligible to serve as a successor; therefore, the order of succession would fall to the next designated official in the approved order of succession.

Kurt Triplett, City Manager  
City of Kirkland, Washington  
Date [    ]

Kevin Raymond, City Attorney  
City of Kirkland, Washington  
Date [    ]

**Table 24: Delegation of Authority for Financial Transactions**

Process	>\$50 K	<\$50 K but > \$7,500	<\$7,500 but > \$1,000	< \$1,000
<b>Contract Signature*</b> Purchase Contract Professional Services Grants Interlocal Agreements	CMO CMO CMO CMO/Finance Dir.	Director	Director	Director
<b>Purchase Orders (KMC 3.85)</b> Purchase of materials equipment, supplies and contractual services	CMO/Finance Dir. Unless Formal process (e.g. cooperative purchase)	Director	Manager responsible for budget	Supervisor or Administrative Assistant** responsible for budget
<b>Authorization to Pay/Recurring</b> Progress payments on existing obligations, monthly/quarterly invoices w/ multiple accounts, training, dues, subscriptions, etc.	CMO - Unless existing obligation	Director - Unless existing obligation	Manager responsible for budget - Unless existing obligation	Supervisor or Administrative Assistant** responsible for budget
<b>Costco</b>	Maximum purchase \$7,500 – subject to same rules as purchase orders			
<b>P-Cards</b>	Not applicable	Director sign-off monthly on department statement	Applicable limits apply to individual transactions	Applicable limits apply to individual transactions
<b>Immediate Pay Claim for Expenses</b>	Department Director and Finance Director or Accounting Manager sign off on all			
<b>Petty Cash</b> Not to be used for reimbursement of business expenses such as meals and mileage	Only up to \$50 – must be signed by Supervisor or above			
* All originals must be filed with the City Clerk’s Office ** Administrative Assistants – Director cannot delegate approval authority unless specifically granted				

## ANNEX D.

### HUMAN RESOURCES

#### Continuity Personnel

People are critical to the operations of any organization. Selecting the right people for an organization's staff is vitally important, and this is especially true in a crisis situation. Leaders are needed to set priorities and keep focus. During a continuity event, COOP Staff will be activated by the City of Kirkland to perform assigned response duties. In respect to continuity personnel, the City of Kirkland has:

- Identified and designated those positions and personnel they judge to be critical to organization operations in any given emergency situation as continuity personnel. A roster of continuity positions is maintained by each Department Director.
- Identified and documented its continuity personnel. Continuity personnel possess the skills necessary to perform essential functions and supporting tasks. A roster of continuity personnel is maintained by the Office of Emergency Management and is found on the H Drive under ALL then Continuity of Operations Plan (COOP).
- Officially informed all continuity personnel of their roles or designations by providing documentation in the form of role checklists to ensure that continuity personnel know and accept their roles and responsibilities. Copies of this documentation is maintained by the Office of Emergency Management and is found on the H Drive under ALL then Continuity of Operations Plan (COOP).
- Ensured continuity personnel participate in the organization's continuity Training and Exercise program, as reflected in training records held by the Office of Emergency Management.
- Provided guidance to continuity personnel on individual preparedness measures they should take to ensure response to a continuity event.

#### All Staff

It is important that the City of Kirkland keeps all staff, especially individuals not identified as continuity personnel, informed and accounted for during a continuity event. The Office of Emergency Management has established procedures for contacting and accounting for employees in the event of an emergency, including operating status.

- City of Kirkland employees are expected to remain in contact with their immediate supervisions during any facility closure or relocation situation through available means of communication at the time (Code Red, phone, email, hand carried message).
- Department Directors and the Office of Emergency Management ensures staff are aware of and familiar with guidance in order to continue essential functions during an emergency through training, drills, and exercises on the COOP process.

Accounting for all personnel during a continuity event is of utmost importance. In order to account for all staff, the City of Kirkland will utilize the Code Red system to account for all employees, word of mouth, as-well-as available phone and email systems.

Accountability information is reported to COOP Senior Leaders every 12 hours, or on the current operational period if it differs. Each Director will make multiple attempts to reach employees who are unaccounted for and report those who are unreachable to the Police Dept.

An event that requires the activation of the Continuity Plan may personally affect the City of Kirkland staff. Therefore, the Office of Emergency Management has the responsibility to create provisions and procedures to assist all staff, especially those who are disaster victims, with special Human Resources concerns following a catastrophic disaster. These provisions and procedures are found in the Comprehensive Emergency Management Plan.

### **Human Resources Considerations**

The City of Kirkland continuity program, plans, and procedures incorporate existing organization-specific guidance and direction for human resources management, including guidance on pay, leave/time off, work scheduling, benefits, telework, hiring, authorities, and flexibilities. The Department of Human Resources has the responsibility for the City of Kirkland human resources issues.

The City of Kirkland has developed organization-specific guidance and direction for continuity personnel on human resources issues. This guidance is integrated with Human Resources procedures for its facility, geographic region, and the Office of Personnel Management or similar organization. This guidance is maintained by the Human Resources Department and addresses the following issues:

- Additional Staffing
- Work Schedules and Leave/Time Off
- Employee Assistance Program
- Employees with Disabilities
- Telework
- Benefits
- Premium and Annual Pay Limitations

Further, the Director of Human Resources communicates Human Resources guidance for emergencies (pay, leave/time off, staffing, work scheduling, benefits, telework, hiring authorities and other human resources flexibilities) to managers in an effort to help continue essential functions during an emergency.

**ANNEX E.**

**TRAINING AND EXERCISES PROGRAM**

The Office of Emergency Management has established an effective Training and Exercise program to support the organization’s preparedness and validate the continuity capabilities, program, and ability to perform essential functions during any emergency. The training and exercising of continuity capabilities is essential to demonstrating, assessing, and improving the City of Kirkland’s ability to execute the continuity program, plans, and procedures.

- Training familiarizes continuity personnel with their roles and responsibilities in support of the performance of an organization’s essential functions during a continuity event.
- Exercises serve to assess, validate, or identify for subsequent correction, all components of continuity plans, policies, procedures, systems, and facilities used in response to a continuity event. Periodic testing also ensures that equipment and procedures are kept in a constant state of readiness.

The Office of Emergency Management will perform the following Training and Exercises at regular intervals, as shown in the table below.

**Table 25: Training and Exercise Expectations for Staff Competence in COOP procedures**

Continuity T&E Requirements	Monthly	Quarterly	Annually	As Required
Test and validate equipment to ensure internal and external interoperability and viability of communications systems	✓			
Test alert, notification, and activation procedures for all continuity personnel		✓		
Test primary and back-up infrastructure systems and services at continuity facilities			✓	
Test capabilities to perform essential functions			✓	
Test plans for recovering Essential Records, critical information systems, services, and data			✓	
Test and exercise of required physical security capabilities at continuity facilities			✓	
Test internal and external interdependencies with respect to performance of essential functions			✓	
Train continuity personnel on roles and responsibilities			✓	
Conduct continuity awareness briefings or orientation for the entire workforce			✓	

Continuity T&E Requirements	Monthly	Quarterly	Annually	As Required
Train organization's leadership on essential functions			✓	
Train personnel on all reconstitution plans and procedures			✓	
Allow opportunity for continuity personnel to demonstrate familiarity with continuity plans and procedures and demonstrate organization's capability to continue essential functions			✓	
Conduct exercise that incorporates the deliberate and preplanned movement of continuity personnel to continuity facilities			✓	
Conduct assessment of organization's continuity T&E programs and continuity plans and programs			✓	
Report findings of all annual assessments to the Public Safety Committee			✓	
Conduct successor training for all organization personnel who assume the authority and responsibility of the organization's leadership if that leadership is incapacitated or becomes otherwise unavailable during a continuity situation			✓	
Train on the identification, protection, and ready availability of electronic and hardcopy documents, references, records, information systems, and data management software and equipment needed to support essential functions during a continuity situation for all staff involved in the Essential Records program			✓	
Test capabilities for protecting classified and unclassified Essential Records and for providing access to them from the continuity facility			✓	
Train on an organization's devolution option for continuity, addressing how the organization will identify and conduct its essential functions during an increased threat situation or in the aftermath of a catastrophic emergency			✓	
Conduct personnel briefings on continuity plans that involve using or relocating to continuity facilities, existing facilities, or virtual offices				✓

Continuity T&E Requirements	Monthly	Quarterly	Annually	As Required
Allow opportunity to demonstrate intra- and interagency continuity communications capability				✓
Allow opportunity to demonstrate back-up data and records required for supporting essential functions at continuity facilities are sufficient, complete, and current				✓
Allow opportunity for continuity personnel to demonstrate their familiarity with the reconstitution procedures to transition from a continuity environment to normal activities				✓
Allow opportunity for continuity personnel to demonstrate their familiarity with agency devolution procedures				✓

The Office of Emergency Management formally documents and reports all conducted continuity TT&E events, including the event date, type, and participants. Documentation also includes test results, feedback forms, participant questionnaires, and other documents resulting from the event. Corrective Actions will be recorded and integrated into the next cycle of training and exercises.

**Table 26:** Corrective Action Program documentation for a Training and Exercise event

Capability	Observation	Recommendation	Corrective Action	Capability Element	Primary Responsible Office	Organization POC	Start Date End Date
Planning	Organization did not conduct a hotwash following March 20xx exercise.	Organization should conduct hotwashes in order to allow participants to provide suggestions on areas of strengths and weaknesses.	Exercise director will plan and execute a hotwash after December 20xx exercise and incorporate comments into the After Action Report.	Planning	City of Kirkland	Exercise Director, Jane Doe, (111) 111-1111	Mar. 7, 20xx Dec. 1, 20xx

## ANNEX F.

### GLOSSARY

**Activation** – Once a continuity of operations plan has been implemented, whether in whole or in part, it is considered activated.

**Advance Team** – Group of people assigned responsibility for preparing the alternate facility for operations once the activation decision has been made.

**After Action Report (AAR)** – A narrative report that presents issues found during an incident and recommendations on how those issues can be resolved.

**All-Hazards** – The spectrum of all types of hazards including accidents, technological events, natural disasters, terrorist attacks, warfare, and chemical, biological including pandemic influenza, radiological, nuclear, or explosive events.

**Alternate Facilities** – Locations, other than the primary facility, used to carry out essential functions, particularly in a continuity event. Alternate facilities refers to not only other locations, but also nontraditional options such as working at home (teleworking), telecommuting, and mobile-office concepts.

**Communications** – Voice, video, and data capabilities that enable the leadership and staff to conduct the mission essential functions of the organization.

**Continuity** – An uninterrupted ability to provide services and support, while maintaining organizational viability, before, during, and after an event.

**Continuity of Government (COG)** – The term COG applies to the measures taken by a state or local government to continue to perform required functions during and after a severe emergency. COG is a coordinated effort within each branch of the government to continue its minimum critical responsibilities in a catastrophic emergency.

**Continuity of Operations Plan (COOP)** – An internal effort within individual components (e.g. – executive, legislative, judicial branches) of a government to assure the capability exists to continue critical component functions across a wide range of potential emergencies, including localized acts of nature, accidents, and technological and/or attack-related emergencies.

**Continuity Facilities** – Locations, other than the primary facility, used to carry out essential functions, particularly in a continuity situation. “Continuity facilities” refers to not only other locations, but also nontraditional options such as working at home (teleworking), telecommuting, and mobile-office concepts.

**Continuity of Operations** – An effort within individual agencies to ensure they can continue to perform their Mission Essential Functions and Primary Mission Essential Functions during a wide range of emergencies, including localized acts of nature, accidents, and technological or attack-related emergencies.

**Continuity Event** – Any event that causes an agency to relocate its operations to an alternate or other continuity site to assure continuance of its essential functions.

**COOP Team** – Personnel of a department or jurisdiction who are designated to report to the alternate facility during COOP implementation to ensure that the department or jurisdiction is able to perform its critical functions.

**Corrective Action Program** – An organized method to document and track improvement actions for a program.

**Critical Customers** – Organizations or individuals that perform mission-critical functions.

**Critical Functions** – Those functions, stated or implied, that the City is required to be performed by statute, regulation or executive order or are otherwise necessary to provide vital services, exercise civil authority, maintain the safety and well-being of the general populace, and sustain the industrial and economical base in an emergency.

**Critical Operations** – Those operations, stated or implied, that are required to be performed by statute or executive order or are otherwise deemed necessary.

**Critical COOP Personnel** – Staff of a department or jurisdiction that are needed for the performance of the organization's critical functions.

**Delegation of Authority** – Identification, by position, of the authorities for making policy determinations and decisions at headquarters, field levels, and all other organizational locations. Generally, pre-determined delegations of authority will take effect when normal channels of direction have been disrupted and will lapse when these channels have been reestablished.

**Devolution** – The capability to transfer statutory authority and responsibility for essential functions from an agency's primary operating staff and facilities to other agency employees and facilities, and to sustain that operational capability for an extended period.

**Devolution Group** – A small group of senior leaders (likely only Directors, Deputy Directors and some Managers) chosen from the COOP Team to perform the most essential functions of the City.

**Emergency** – A sudden, usually unexpected event that does or could do harm to people, resources, property, or the environment. Emergencies can range from localized events that affect a single office in a building, to human, natural or technological events that damage, or threaten to damage, local operations. An emergency could cause the temporary evacuation of personnel or the permanent displacement of personnel and equipment from the site to a new operating location environment.

**Essential Functions** – The critical activities performed by organizations, especially after a disruption of normal activities. There are three categories of essential functions: National Essential Functions, Primary Mission Essential Functions, and Mission Essential Functions.

**Essential Records** – Electronic and hardcopy documents, references, and records that are needed to support essential functions during a continuity situation. The two basic categories of Essential Records are (1) emergency operating records and (2) rights and interests records.

**Facilities** – Locations where an organization's leadership and staff operate. Leadership and staff may be co-located in one facility or dispersed across many locations and connected by communications systems. Facilities must be able to provide staff with survivable protection and must enable continued and enduring operations.

**Go-Kit** – An easily transported set of materials, technology and vital records that shall be required to establish and maintain minimum critical operations.

**Incident Action Plan (IAP)** – An oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It may also include attachments that provide direction and important information for management of the incident during one or more operational periods.

**Incident Command System (ICS)** –A standardized on-scene emergency management construct specifically designed to provide for the adoption of integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is a combination of facilities, equipment, personnel, procedures, and communications operating with a common organizational structure, designed to aid in the management of resources during incidents.

**Incident Commander (IC)** –The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and releasing of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident management operations.

**Interoperable Communications** – Communications that provide the capability to perform essential functions, in conjunction with other organizations/entities, under all conditions.

**Leadership** – The senior decision makers who have been elected (e.g., the Mayor or City Council) or designated to head a department or unity of the City (e.g. City Manager, Department Directors, Managers, etc.)

**Legal and Financial Records** – Records that are needed to protect the legal and financial rights of government and of the people affected by its actions.

**Logistics Section** – The section responsible for providing facilities, services and material support of an incident.

**Memorandum of Agreement/Memorandum of Understanding** – Written agreement between departments/agencies that require specific goods or services to be furnished or tasks to be accomplished by one organization in support of the other.

**Mission Essential Functions** – The limited set of agency-level government functions that must be continued throughout, or resumed rapidly after, a disruption of normal activities.

**Non-Critical Personnel** – Staff of a department or jurisdiction who are not required for the performance of the City's mission critical functions.

**Operations Section** – The section responsible for all tactical incident operations. In ICS, it normally includes subordinate branches, divisions and groups.

**Orders of Succession** – Provisions for the assumption by individuals of organization senior leadership positions during an emergency in the event that any of those officials are unavailable to execute their legal duties.

**Plan Maintenance** – Steps taken to ensure the plan is reviewed annually and updated whenever major changes occur.

**Planning Section** – Responsible for the collection, evaluation and dissemination of operational information related to the incident, and for the preparation and documentation of the IAP. This section also maintains information on the current and forecasted situation and on the status of resources assigned to an incident.

**Primary Operating Facility** – The site of an organization's normal, day-to-day operations; the location where the employee usually goes to work.

**Reconstitution** – The process by which surviving and/or replacement organization personnel resume normal operations from the original or replacement primary operating facility.

**Risk Analysis** – The process by which risks are identified and evaluated.

**Risk Assessment** – The identification and assessment of hazards.

**Risk Management** – The process of identifying, controlling, and minimizing the impact of events whose consequences are or may be unknown, or events that are fraught with uncertainty.

**Situation Report (SITREP)** – A written, formatted report that provides a picture of the response activities during a designated reporting period.

**Telework** – The ability to work at a location other than the official duty station to perform work or emergency duties. This may include, but is not limited to, using portable computers, personal computers, high-speed telecommunications links, and mobile communications devices.

**Training and Exercises** – Measures to ensure that an agency's continuity plan is capable of supporting the continued execution of the agency's essential functions throughout the duration of a continuity situation.

**Vital Records** – Electronic and hardcopy documents, references and records needed to support critical functions during a COOP event, to recover full operations following an emergency, and to protect the legal rights and interests of citizens and government. The two basic categories of vital records are emergency operating records (e.g. plans and directives, orders of succession, delegations of authorities and staffing assignments) and rights and interests records.

**Vital Equipment and Systems** – Equipment and systems that are needed to support critical functions during a COOP event.

**Virtual Offices** – An environment where employees are not collocated and rely exclusively on information technologies to interact and conduct their work across distance from multiple geographic locations.



# City of Kirkland Office of Emergency Management



Regional Functional Exercise  
June 7-11, 2016

## After Action Report and Improvement Plan



October  
2016

## HANDLING INSTRUCTIONS

1. The title of this document is the *City of Kirkland, Office of Emergency Management After Action Report and Improvement Plan for the Cascadia Rising 2016 Functional Exercise*
2. The information gathered in this AAR/IP is unclassified and open for public interaction. This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate public records rules for the City of Kirkland. Public record means that documents are open to be viewed by the public. Reproduction of this document, in whole or in part, is permissible by any interested party.

3. Point of Contact:

Pattijean Hooper, Ph.D.  
Emergency Manager  
City of Kirkland Fire Department  
123 5<sup>th</sup> Avenue, Kirkland, WA 98033  
[pjhooper@kirklandwa.gov](mailto:pjhooper@kirklandwa.gov)  
425.587.3630 (office)  
425.503.2635 (mobile)

## Kirkland Office of Emergency Management

---

## CONTENTS

<b>Administrative Handling Instructions .....</b>	<b>1</b>
<b>Contents .....</b>	<b>2</b>
<b>Executive Summary .....</b>	<b>3</b>
Major Strengths .....	[3]
Primary Areas for Improvement .....	[3]
<b>Section 1: Exercise Background .....</b>	<b>5</b>
Cascadia Subduction Zone .....	[5]
Exercise Design and Planning Approach .....	[5]
<b>Section 2: Incident Overview .....</b>	<b>6</b>
Exercise Details .....	[6]
Exercise Objectives .....	[7]
Participating Organizations.....	[8]
Significant Events Log .....	[9]
<b>Section 3: Information Collection and After action Report Development .....</b>	<b>10</b>
Hot Wash .....	[10]
Survey .....	[10]
Individual Feedback.....	[10]
King County Exercise Planning Workgroup .....	[10]
King County After action Conference .....	[10]
<b>Section 4: Major Findings and Best Practices .....</b>	<b>11</b>
Focus Area 4.1 Partnership Development .....	[11]
Focus Area 4.2 Community and Volunteer Engagement .....	[13]
Focus Area 4.3 City Hall Senior Leadership Engagement .....	[15]
Focus Area 4.4 Engaged City Council .....	[16]
Focus Area 4.5 Participation Across City Departments .....	[17]
Focus Area 4.6: Communication Alert System for City Employees .....	[18]
Focus Area 4.7 Integration of the Field Innovation Team .....	[19]
Focus Area 4.8 Integration of Washington Army National Guard Support into Community Response Operations .....	[20]
<b>Section 5: Improvement Plan .....</b>	<b>21</b>
<b>Section 6: Conclusion .....</b>	<b>22</b>
<b>Section 7: Review and Approval .....</b>	<b>23</b>

## Kirkland Office of Emergency Management

---

### EXECUTIVE SUMMARY

From Monday June 7<sup>th</sup> through Saturday June 11<sup>th</sup>, the City of Kirkland Office of Emergency Management (OEM) participated in a statewide functional exercise titled *Cascadia Rising*. The exercise was an opportunity to demonstrate how the community might respond to a 9.0 rupture of the Cascadia Subduction Zone, with the resulting earthquake and seiche.

Although locally led by Kirkland OEM, this was a regional exercise designed by the Federal Emergency Management Agency at Region X in Bothell, WA. King County Emergency Management was the regional lead, with Zone 1 cities engaged in play with one another throughout the week. Approximately 2,000 individuals participated in the exercise regionally, with approximately 300 participants from the City of Kirkland.

Kirkland OEM hosted the 1 Battalion-161<sup>st</sup> Infantry of the Washington Army National Guard with the support of the Kirkland Police Department which provided its facility for housing and daily operations. This relationship coupled with the extensive engagement of community volunteers at the Saturday field exercise provided an enhanced experience for the city.

#### Major Strengths

The major strengths identified during this event are as follows:

- Breadth and depth of partnership development
- Superior volunteer and community engagement
- Involvement of senior leadership from City Hall
- Commitment and participation from City Council members
- Participation across city departments
- Communication alert system for city employees
- Integration of WA National Guard support into community response operations

#### Primary Areas for Improvement

Throughout the event, several opportunities for improvement in the City of Kirkland's ability to respond to the exercise were identified. OEM capabilities and resources need to include:

- Training for city employees
- Engaging Kirkland private sector partners in readiness, response, & recovery
- Developing a functional communication system for City Hall to communicate with first responders
- Establishing a policy for drone use in emergency management
- Broadening the range of community organizations active in disaster preparedness
- Increasing Kirkland Emergency Operations Center operability and regional partner interoperability

Overall, participation in the Cascadia Rising exercise was highly successful and provided a strong platform for continuing to build response and recovery operations for the city.

## SECTION 1: EXERCISE BACKGROUND

### Cascadia Subduction Zone

Lying mostly offshore in the Pacific Ocean, the Cascadia Subduction Zone (CSZ) plate interface is a giant fault, approximately 700 miles long. Here, the set of tectonic plates to the west is subducting, or sliding, beneath the North American Plate. The movement of these plates is neither constant nor smooth: the plates are stuck, and the stress will build up until the fault suddenly breaks. This last happened in January 1700. The result was an earthquake on the order of magnitude 9.0 followed within minutes by a large tsunami. Stresses have now been building along the CSZ for more than 300 years, and another great quake will shake the region again someday soon. (FEMA, Cascadia Exercise Scenario Document, 2015)

The most recent research suggests there is a 37% likelihood of a CSZ rupture within the next 50 years. Given the local geology of Kirkland, with large areas of seismically sensitive soils, susceptibility to landslides, the built environment, elevated transportation structures, and low-lying communities and business susceptible to a seiche, the next CSZ event is predicted to cause catastrophic and widespread damage. (WA State Enhanced Hazard Mitigation Plan, 2012)

### Exercise Design and Planning Approach

The Cascadia Rising 2016 exercise was designed to simulate the challenges and issues resulting from catastrophic earthquake originating from the CSZ fault line. This was pursued through the participation of all levels of emergency management: Federal, Tribal, State, Local, Military, Private Sector, and Non-Governmental Organizations. (Deyerin, KCEOC AAR, 2016)

From April 2016, Kirkland OEM joined the King County Exercise Planning Group, meeting monthly to identify individual and collective exercise objectives. The workgroup began to identify elements of infrastructure within respective jurisdictions that the earthquake would impact. These were compiled into a ground truth document, the intent of which was to provide a single, coordinated planning reference from which to generate exercise injects that drive exercise play. Kirkland OEM identified three response core capabilities to test: Operational Coordination, Operational Communications, and Situational Assessment. There were 11 specific objectives in subcategories to assess during exercise play. These are detailed in Section 2.

Specific community engagement by Kirkland OEM included: Two Master Exercise Scenario List (MESL) workshops with community volunteers to write injects; 24 meetings with voluntary groups to engage community members, briefings to senior staff at the city, publicity via print and social media, meetings with Kirkland Police regarding logistics for National Guard troops, multiple meetings with the WA National Guard on engagement procedures, work with the Field Innovation Team to emphasize long term recovery beginning during response operations.

## SECTION 2: INCIDENT OVERVIEW

### Details

**Event Name**

Cascadia Rising 2016

**Event Start Date**

08:00, Tuesday, June 7<sup>th</sup>, 2016

**Event End Date**

15:00, Saturday, June 11<sup>th</sup>, 2016

**Threat and Scenario**

Catastrophic Earthquake – 9.0 full rip rupture of the Cascadia Subduction Zone resulting in aftershocks, tsunami, and seiche with significant impact on life and safety.

**Type of Event**

This event was a functional exercise Tuesday through Friday with field play on Saturday.

**Mission Area**

Response Operations

**Response Core Capabilities** (bold font indicates Kirkland OEM capabilities to be tested during the exercise)

- **Operational Communications**
- Public Health and Medical Services
- Mass Care Services
- **Situational Assessment**
- Critical Transportation
- **Operational Coordination**
- Fatality Management Services
- Infrastructure Systems
- Planning
- Public Information and Warning

**Locations**

Kirkland City Hall – Emergency Operations Center – 123 5<sup>th</sup> Avenue Kirkland, WA 98033

- Functional Play – Tuesday through Friday

Inglewood Presbyterian Church – 7718 NE 141st St., Kirkland, WA 98034

- Field play on Saturday

Kirkland Justice Center – 11750 NE 118th St., Kirkland, WA 98034

- Operations & staging area for the WA National Guard Sunday through Saturday

Crestwoods Park – 1818 6th St., Kirkland, WA 98033

- Blackhawk Helicopter landing site on Friday

## Kirkland Office of Emergency Management

---

### Objectives

#### Operational Communications

- Demonstrate the ability of Emergency Operations Center (EOC) to establish and sustain voice and data communications with other EOCs, (regional, county, state) and with the HAM radio operators to support response operations and coordinated public messaging.
- Employ a multi-tiered communication system to inform city employees of incident status and response operations status.
- Exercise communications processes internally in accordance with CEMP policies and procedures.

#### Situational Assessment (Common Operating Picture)

- Demonstrate the ability of the EOC to provide City of Kirkland decision-makers (City Council, Directors, Senior EOC Staff) with relevant information regarding the extent of disaster damages to critical infrastructures and other facilities, cascading effects, and the status of ongoing response operations and share this information with critical stakeholders.
- Activate the Incident Command System in response to a rupture of the Cascadia Subduction Zone.
- Construct and implement an exercise that challenges participants to appraise information and design a response operation for unique circumstances that demonstrate critical thinking under pressure.

#### Operational Coordination

- Demonstrate the ability to establish operational control and coordination structures within the impacted region to include the mobilization, employment, and sustainment of critical internal and external response resources to meet basic survivor needs and stabilize the incident.
- Develop an Incident Action Plan and conduct associated briefings to the Emergency Operations Center staff.
- Establish the command structure to manage the incident and meet the Incident Commander's objectives.
- Transition from Incident Command to Unified Command when the National Guard partners with the City of Kirkland for response and recovery operations.
- Coordinate the activation of local and regional disaster volunteer system.

## Kirkland Office of Emergency Management

---

### Participating Organizations

Support from regional emergency management, the private sector, faith-based and community based organizations, city departments, military participants and emergency management volunteers created a robust exercise. Participants were:

1. 1-161<sup>st</sup> Infantry of the Washington Army National Guard
2. Alliance of People with DisAbilities
3. AmeriCorps
4. Bellevue Office of Emergency Management
5. Bothell Office of Emergency Management
6. Camp Murray Family Programs
7. Cascadia Region Earthquake Workgroup
8. City of Newcastle
9. Congresswoman Susan DelBenne
10. Disabled Veterans Exercise Group
11. Field Innovation Team
12. Friends of Youth - Eastside
13. Greater Kirkland Citizen Corps Council
14. Holy Family Catholic Church
15. Hope Animal Assistance Team
16. Hopelink
17. Imaging In flight (SAR Drone)
18. Inglewood Presbyterian Church
19. King County Executive's Office
20. King County Medical Reserve Corps
21. King County Office of Emergency Management
22. Kirkland City Council
23. Kirkland Community Emergency Response Teams (CERT)
24. Kirkland Emergency Communications Team (Ham Radio)
25. Kirkland Police Explorers
26. NORCOM
27. Northshore Emergency Management Coalition
28. Northshore Utility District
29. Renton High School Teen CERT Program
30. Renton Office of Emergency Management
31. Sammamish Plateau Water District
32. Shoreline Office of Emergency Management
33. The Community Resiliency Project
34. Tzu Chi Buddhist Disaster Relief Foundation
35. Universal Unitarians
36. University of Washington Department of Applied Geosciences
37. Volair Media
38. Zone 1 Emergency Management Coordinator

## Kirkland Office of Emergency Management

**SIGNIFICANT EVENTS LOG: Cascadia Rising 2016 - Kirkland, Washington**

Date	Time	Event/Action
June 7	09:00	Exercise begins – Senior leadership briefing
June 7	9:50	Inaugural launch of the Code Red incident alert system to all city staff
June 7 - 10	08:00 – 17:00	Exercise play – involved 154 city staff and 14 participating organizations in the EOC over a 4 day exercise activation period.
June 10	08:00 – 12:00	Field Innovation Team conducted a workshop on innovation in community response operations focused on long term recovery.
June 10	13:00 – 16:00	<p>Blackhawk helicopter demonstration at Crestwoods Park involved four levels of engagement.</p> <ol style="list-style-type: none"> <li>1. Landing and public interaction with more than 200 community members meeting the crew, educational briefings, and taking photographs on and in the helicopter.</li> <li>2. CERT members received “cold load” training from the helicopter pilots and crew on patient loading techniques for casualty evacuation and exercised the training on site under crew supervision.</li> <li>3. Helicopter orientation flight for select senior staff and City Council members.</li> <li>4. Helicopter landing zone exercise for WA National Guard soldiers.</li> </ol>
June 11	08:00 – 13:00	The Stone Soup Center at Inglewood Presbyterian Church conducted a community response operation exercise involving 144 community members representing 26 partner organizations.
June 11	08:00 – 12:00	Field Innovation Team conducted two workshops on innovation through community involvement in long-term recovery.

## **SECTION 3: INFORMATION COLLECTION AND AFTER ACTION REPORT DEVELOPMENT**

Data for the After Action Report was compiled using feedback from three sources: Hot washes, (immediate discussions following the performance of the exercise), a written survey, and individual interviews. All information collected informs how we implement improvements identified in the *Areas Needing Improvement* section in each *Major Finding* section in Section 4.

### **Hot Wash**

These after action evaluations were conducted by facilitators with the following organizations: Inglewood Presbyterian Church, Kirkland Emergency Communications Team, Finn Hill CERT, and each shift of staff participating in the exercise. Participants were asked four questions: What was supposed to happen? What actually happened? Why was there a difference? What can we learn from this?

### **WRITTEN SURVEY**

A 10 question on-line written survey was distributed to all city staff who participated in the exercise. General demographic information was collected along with queries regarding social media use and on-call availability. The most specific questions were about training. Participants were asked about their level of preparedness for the EOC assignment, training needs, and preference for type of training format.

### **INDIVIDUAL FEEDBACK**

Six individuals from city hall staff dropped in to provide feedback to OEM staff. Although it was non-scientifically collected information, it was valid and recorded.

### **KING COUNTY EXERCISE PLANNING WORKGROUP**

Kirkland OEM participated in the King County Exercise Planning Workgroup for an 18 month period previous to the exercise and shared initial exercise results and forward planning with the workgroup at the standing meeting following CR2016.

### **KING COUNTY AFTER ACTION CONFERENCE**

The King County Office of Emergency Management hosted a regional After Action Conference on August 23, 2016 to share the major findings from its after action report and solicit additional input and feedback from all attendees. Kirkland OEM attended, providing input and feedback.

## SECTION 4: MAJOR FINDINGS

---

### Focus Area 4.1 Partnership Development

---

#### Best Practice

#### Developing and Maintaining Pre-Existing Professional Relationships

The range and quality of participation in Kirkland OEM's engagement in the Cascadia Rising 2016 exercise is an extraordinary example of how pre-existing relationships among local, state, and federal emergency leadership, public safety, voluntary groups, community-based, and faith-based partners enhanced capacity and capabilities to engage in a complex exercise that cannot tangibly be captured or addressed in a written plan. There were 38 partner organizations engaged in play here in the City of Kirkland, a remarkable show of support for the Office of Emergency Management.

Pre-existing professional relationships among key leadership and volunteer personnel developed over two years of planning and training proved critically important throughout the week-long exercise. These relationships built the trust and rapport that allowed for Unified Command to come together, and quickly, to support timely, effective, and collaborative decision making to address exercise injects, community involvement, and build confidence in capabilities that can be called upon in an actual incident using a variety of regional partners in the Incident Command System.

#### Objectives Met Through Partnership Development

##### 1. Operational Coordination

- Demonstrate the ability to establish operational control and coordination structures within the impacted region to include the mobilization, employment, and sustainment of critical internal and external response resources to meet basic survivor needs and stabilize the incident.

##### 2. Operational Communication

- Exercise communications processes internally in accordance with CEMP policies and procedures.

## Kirkland Office of Emergency Management

---

### 3. Situational Assessment

- Activate the Incident Command System in response to a rupture of the Cascadia Subduction Zone.

### Areas Needing Improvement

There was limited involvement from private sector partners in the community. The WA National Guard and Kirkland Emergency Communication Team (KECT) had minor interactions with Evergreen Hospital. This relationship will be critical, no matter what the incident is, and the hospital must be looped into OEM activities on a regular basis. Other large private sector partners (e.g. Google, Costco), and small businesses and their advocate groups (e.g. Chamber of Commerce, Rotary Int.) should be encouraged to participate as well. One of the key reasons for early and frequent engagement prior to a Cascadia Subduction Zone event is to define capabilities and determine the fiscal arrangements to pay for required capabilities. The time to define Memorandums of Agreement or understanding is not during a crisis, but before.

---

## **Focus Area 4.2 Community and Volunteer Engagement**

---

### **Best Practice**

Extending the Cascadia Rising 2016 exercise one day, (through Saturday), for OEM volunteer support groups and community and faith based organizations to engage in play with professional response operations partners.

The exercise was designed to engage professional emergency management personnel and support partners with play designated Tuesday through Friday. Local emergency management depends heavily on volunteer groups that support OEM such as CERT, KECT (ARES), Map Your Neighborhood, and specific to Kirkland, the Stone Soup Initiative partners. These voluntary organizations are force multipliers to support professional resources in Public Safety (fire and police). Because so many volunteers are in the workforce, taking time from paid employment is not practical. Providing Saturday play was beneficial to the city by providing a stimulating exercise to keep OEM volunteers engaged. It was beneficial to volunteer participants because they practiced their skills and conducted exercises with professional partners such as the WA National Guard.

### **Objectives Met Through Community and Volunteer Engagement**

#### **1. Operational Coordination**

- Coordinate the activation of local and regional disaster volunteer system.

#### **2. Situational Assessment (Common Operating Picture)**

- Construct and implement an exercise that challenges participants to appraise information and design a response operation for unique circumstances that demonstrate critical thinking under pressure.

#### **3. Operational Communications**

- Demonstrate the ability of the Emergency Operations Center (EOC) to establish and sustain voice and data communications with other EOCs, (regional, county, state) and with the HAM radio operators to support response operations and coordinated public messaging.

## Kirkland Office of Emergency Management

---

### Areas Needing Improvement

Currently there is only one Stone Soup Initiative location, so CERT members on Finn Hill have more opportunity to engage in exercises than all other neighborhood CERT teams. The initiative needs to expand more rapidly to widen the reach to organizations committed to becoming warming, cooling, and charging stations, and the CERT neighborhood teams that will be partnered with them.

GIS program assistance will be required to identify all Map Your Neighborhood locations in the city.

Many organizations who partnered in the exercise expressed a desire to engage with OEM on a formal level, but there is no structure in place to do so beyond one-on-one meetings. This establishes the need for a Community Organizations Active in Disaster (COAD) group to be formed in the community. These COAD members will be strong partners in the community when there is a Long Term Recovery Plan that will help them manage the resources and capabilities of national groups that arrive during response operations to assist.

---

## Focus Area 4.3

### City Hall Senior Leadership Engagement

---

#### Best Practice

Conducting a *Senior Leaders' Briefing* to kick off the exercise.

The heavy work load of Department Directors limited their engagement in a week-long exercise. Bringing them together for a briefing that provided an overview of the incident and explained the basics of command and control during response operations, along with the coordination during recovery operations and the application of both the Incident Command System and Unified Command, established the range of activities that would be required of each of them during a real activation of the EOC.

#### Objectives Met Through City Hall Senior Leadership Engagement

##### 1. Situational Assessment (Common Operating Picture)

- Activate the Incident Command System in response to a rupture of the Cascadia Subduction Zone.
- Demonstrate the ability of the EOC to provide City of Kirkland decision-makers (City Council, Directors, Senior EOC Staff) with relevant information regarding the extent of disaster damages to critical infrastructures and other facilities, cascading effects, and the status of ongoing response operations and share this information with critical stakeholders.

#### Areas Needing Improvement

All senior leaders would have benefited from taking one shift in the EOC in positions providing each with hands on experience in response operations. Directors and managers need to lead staff to participate in training and exercises by establishing each as an item in employee's yearly work plans. This will give OEM an opportunity to work with HR's new training system.

---

## **Focus Area 4.4 Engaged City Council**

---

### **Best Practice**

#### **Opening exercise play to City Council members**

Kirkland OEM is fortunate to have a City Council that is engaged in emergency management throughout the year, and supportive of the growing program. They invited OEM to provide an overview of the exercise at a council meeting, participate in regional emergency management committees, and have personal engagement in the field. Inviting all City Council members to participate in exercise play at the EOC, and to take a flight in the Blackhawk Helicopter was an opportunity to move emergency management from theory to practice.

### **Objectives Met Through Commitment and Participation from City Council Members**

#### **1. Situational Assessment (Common Operating Picture)**

- Demonstrate the ability of the EOC to provide City of Kirkland decision-makers (City Council, Directors, Senior EOC Staff) with relevant information regarding the extent of disaster damages to critical infrastructures and other facilities, cascading effects, and the status of ongoing response operations and share this information with critical stakeholders.

### **Areas Needing Improvement**

City Council members will be called on to speak to the public during an incident and explain processes in response, recovery, and long-term community recovery. A specialized session that would provide them with injects giving them the opportunity to practice responses to those types of focused activities would have been beneficial.

---

## Focus Area 4.5 Participation Across City Departments

---

### Best Practice

#### Opening Exercise Play to All City Employees

Response to an incident requires all city employees to engage in emergency management. Kirkland employees were given the opportunity to voluntarily sign up for a shift in the EOC. This provided the exercise with individuals who were personally committed to the activity and were willing to engage in play in a variety of roles. Individuals were encouraged to take positions of their choice, allowing them to tailor their training to personal interest areas. Engaged play was focused on learning the ICS system, how to prioritize the Incident Commander's mission and priorities, as well as to follow injects through each of the ICS stations to completion.

### Objectives Met

#### 1. Operational Coordination

- Establish the command structure to manage the incident and meet the Incident Commander's objectives.
- Develop an Incident Action Plan and conduct associated briefings to the Emergency Operations Center staff.
- Demonstrate the ability to establish operational control and coordination structures within the impacted region to include the mobilization, employment, and sustainment of critical internal and external response resources to meet basic survivor needs and stabilize the incident

### Areas Needing Improvement

Everyone employed by the City of Kirkland needs generalist's training (and some need specialized training) in emergency management functions on a quarterly basis to maintain the skill level required in response operations.

---

## **Focus Area 4.6**

### **Communication Alert System for City Employees**

---

#### **Best Practice**

**Implementing the Code Red communication alert system at the start of the Cascadia Rising 2016 exercise.**

All city employees were informed about Code Red's implementation pre-exercise and encouraged to register with the system. Those employees received an alert via email or text as the exercise began alerting them both of the upcoming play and the operability of the alert system.

#### **Objectives Met Through Applying Code Red Communication Alert System for City Employees**

##### **1. Operational Communications**

- Employ a multi-tiered communication system to inform city employees of incident status and response operations status.

#### **Areas Needing Improvement**

Training on the system needs to be conducted on a bi-annual basis.

---

## **Focus Area 4.7**

### **Integration of the Field Innovation Team**

---

#### **Best Practice**

**Utilizing the Field Innovation Team workshop as an element that moved the exercise from response to recovery operations.**

The Field Innovation Team (FIT) is a non-profit organization that conducted three workshops on disaster resilience utilizing activities in a curriculum designed to build critical thinking that will aid in solving problems unique to the City of Kirkland, post incident. These tailor made workshops focused on understanding problems, putting together teams with diverse expertise, and approaching incident problem solving with long-term perspectives in mind.

From the onset of the exercise in the Senior Leader's Briefing, OEM stressed that recovery operations must be in place and activated as soon as possible. The optimal time for activating a Long Term Recovery Plan is parallel to response operations.

#### **Objectives Met**

##### **1. Operational Coordination**

- Coordinate the activation of local and regional disaster volunteer systems.

##### **2. Situational Assessment (Common Operating Picture)**

- Construct and implement an exercise that challenges participants to appraise information and design a response operation for unique circumstances that demonstrate critical thinking under pressure.

#### **Areas Needing Improvement**

A Long Term Recovery Plan must be written, and city staff and volunteers must be trained and exercised to implement it.

---

## **Focus Area 4.8**

### **Integration of Washington Army National Guard Support into Community Response Operations**

---

#### **Best Practice**

**Establishing pre-incident relationships with the Washington Army National Guard (WANG) by engaging them in exercise play in the community for an entire week.**

In any incident that exceeds local resources or capabilities the State can deploy the WA National Guard to assist communities. Having the 1-161st Infantry Battalion on site in Kirkland for a week was an incredible asset to the city. The Police Department extended its facility for the WANG to set up operations in the parking lot and house enlisted soldiers in the station itself. All members had facilities access for hygiene. The WANG participated in all exercise play in the EOC and on Saturday with the volunteers. The city was mapped for staging areas, critical infrastructure, and transportation by the Guard over the course of the week. The promotional activity of having the Blackhawk helicopter land in Crestwoods Park brought many members of the public to the activity who are not emergency management volunteers, extending the educational reach of both the WANG and OEM.

#### **Objectives Met**

##### **1. Operational Coordination**

- Transition from Incident Command to Unified Command when the National Guard partners with the City of Kirkland for response and recovery operations.
- Demonstrate the ability to establish operational control and coordination structures within the impacted region to include the mobilization, employment, and sustainment of critical internal and external response resources to meet basic survivor needs and stabilize the incident

#### **Areas Needing Improvement**

More work in planning would have resulted in specific injects for each shift in the EOC. Inject development was too broad and did not provide an opportunity to exceed the resources or capabilities of the National Guard.

## SECTION 5: IMPROVEMENT PLAN

### Recommendations:

1. Establish an OEM Advisory Board (comprised of representatives from: City Hall; business community; EM professionals at the regional, state, and federal level; National Guard; faith-based and community-based organizations; Kirkland OEM volunteer groups).
2. Develop and implement a Training Needs Assessment.
3. Provide opportunities for four one-hour emergency management classes for all City employees as part of their yearly work plans.
4. Sponsor regional ICS courses for directors and managers.
5. Engage in twice-yearly interaction with City Council (one study session and one OEM update). Provide ongoing policy group meeting experience for council members.
6. Implement a practice schedule for Code Red, WPS, and GETS.
7. Expand the Stone Soup Initiative more rapidly to widen the reach to organizations committed to becoming warming, cooling, and charging stations, and the CERT neighborhood teams that will be partnered with them. This includes budget considerations for generators.
8. Establish a Community Organizations Active in Disaster (COAD) group.
9. Develop a Long Term Recovery Plan that will help the COAD manage the resources and capabilities of national groups that arrive during response operations to assist.
10. Repair ARES/KECT antennas on the roof of City Hall.
11. Create ICS compliant badges for all City Hall employees and OEM volunteers (that identify EOC position and basic ICS course training) on the back of a City ID card.
12. Utilize City GIS resources to identify all Map Your Neighborhood locations.
13. Develop an EOC roster.
14. Develop an outreach program for community businesses.
15. Conduct a biennial exercise with the WA Army National Guard.

## **SECTION 6: CONCLUSION**

Kirkland's engagement in the Cascadia Rising 2016 exercise was exceptional because of the variety of participants, number of individuals and groups involved, extension of play to include Saturday June 11<sup>th</sup>, and support of City Hall.

A gap analysis of the event unveiled a need for City Hall Leaders, Directors, and Managers to prioritize regular training in EOC positions as a part of every employee's yearly work plan. This is neither unexpected nor unique to local government offices where non-OEM employees will be expected to step into OEM response operations during an incident.

Engaging faith-based, community-based, and private partners in preparedness activities must continue to expand with emphasis placed on small business engagement.

Thirty-eight partner organizations being involved with Kirkland OEM was an unprecedented show of support from the Whole Community. No other city, state, or other partner involved in Cascadia Rising 2016 had that level of engagement!

## **SECTION 7: REVIEW AND APPROVAL**

The After Action Review and Improvement Plan was reviewed and approved by the following individuals. Every effort was made to develop this report to accurately reflect the experiences and observations common to most of the Cascadia Rising 2016 Exercise participants within the City of Kirkland.

Joe Sanford  
Fire Chief  
City of Kirkland

Lt. Col Jonathan Beddall  
1-161st Infantry Battalion  
Washington Army National Guard

Mike Ryan  
Zone 1  
Emergency Management Coordinator

Christina Brugman  
Chair  
Greater Kirkland Citizen Corps Council

# 2016 Medic One/EMS Advisory Task Force

---

**Thursday, March 17, 2016**

**1:00 PM – 3:00 PM**

**Tukwila Community Center – Banquet Hall**

**12424 42<sup>nd</sup> Ave South, Tukwila, WA**

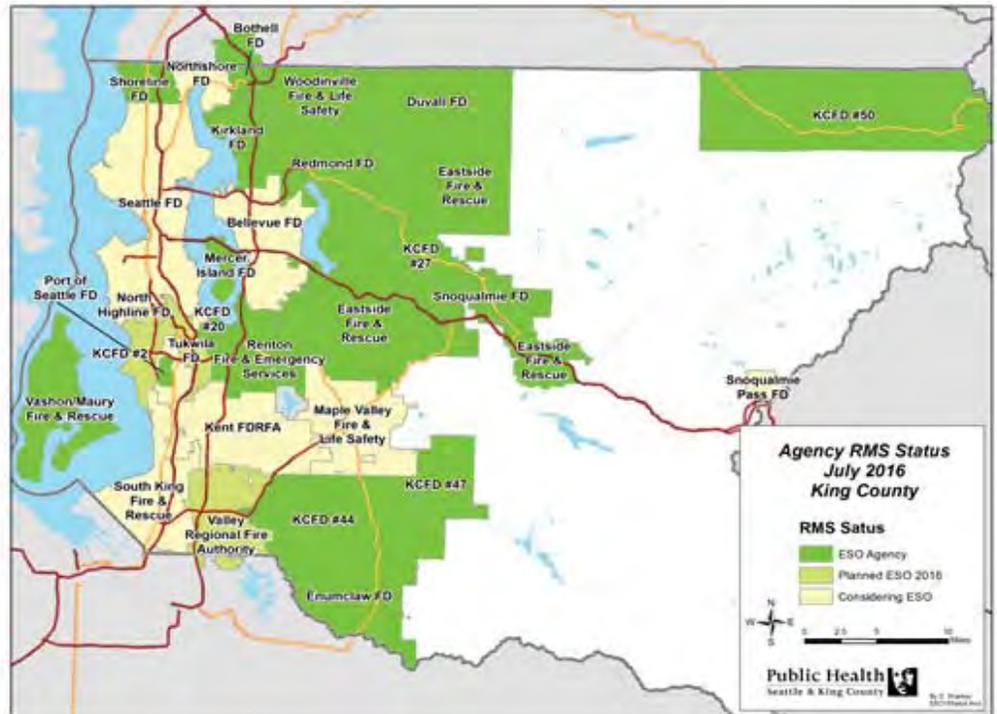
## **Agenda**

- Opening Remarks & Introductions** (15 minutes)  
*Fred Jarrett, Deputy King County Executive*
- Task Force Role & Work Plan** (10 minutes)  
*Michele Plorde, Director, King County Emergency Medical Services Division*
- Strategic Initiative Update** (20 minutes)  
*Michele Plorde, Director, King County Emergency Medical Services Division*
- Briefing on the Independent ALS Study** (60 minutes)  
*Nick Nudell, Project Manager, the Paramedic Foundation*
- Other Items/Future Meetings** (15 minutes)  
*Fred Jarrett, Deputy King County Executive*

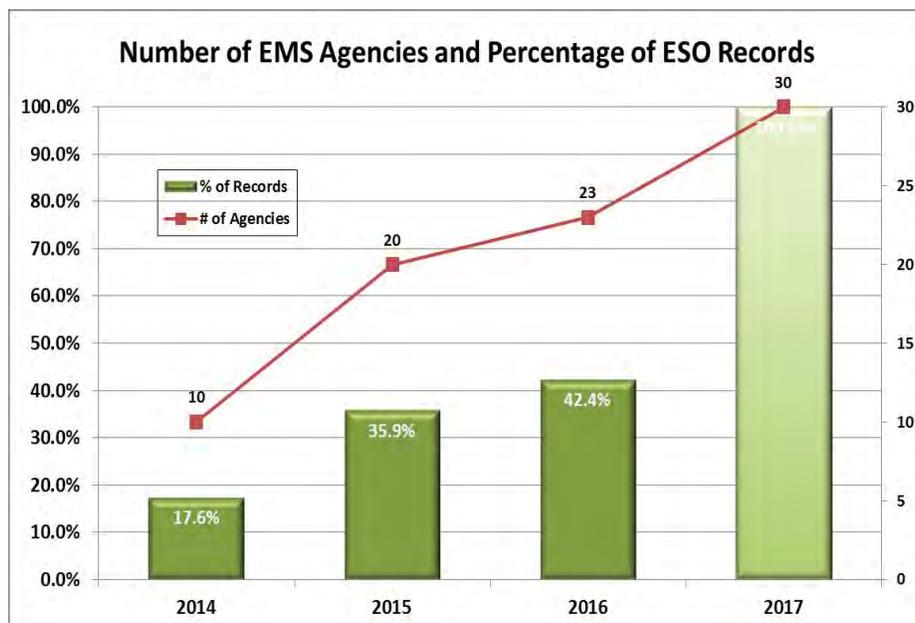
## Regional Records Management System

During the Medic One/EMS 2014-2019 levy planning process, the region committed to supporting programs that specifically reduce BLS costs and improve overall EMS system effectiveness. One such project is the **Regional Records Management System (RMS) Strategic Initiative**, which reduces BLS agency costs by transferring the administrative and financial responsibility of the patient care record software to the EMS Division. This milestone was completed in late 2015 following the identification of a single software solution and the establishment of a contract (ESO Solutions) that enables all EMS agencies access to the software.

The **RMS Initiative** is an important penultimate step in the larger Systemwide Enhanced Network Design (SEND) effort to move EMS agencies from paper to electronic patient care records in the field and connecting to hospitals over electronic interfaces. Tangible progress has been made over the past few years, and the final step is to complete additional interfaces with local hospitals and garner a greater percentage of patient outcomes (currently 11% of all transported patients are received electronically).



By the end of this year, 23 agencies will have transitioned to the use of ESO records, benefitting our partners and patients with more complete and better access to data, increased system oversight, and ultimately, improved medical care.



## BLS Training and Quality Improvement Strategic Initiative

The **BLS Training and Quality Improvement Strategic Initiative (SI)** is a new program to better connect training opportunities with quality improvement activities throughout the EMS system. Currently, these activities are not uniformly available across the system. This Initiative will coordinate and apply these pieces region-wide, allowing the same training and improvement opportunities to **all** agencies, regardless of size or budget.

The Initiative uses four specific strategies to ensure standardized and consistent high quality EMT training that is based on best practice and performance measures:

1. High quality BLS training for EMTs in King County;

The EMS Division will continue to provide initial (basic) EMT training on a regional level so that no matter the location within King County, the medical triage and delivery is the same. During consideration of this Initiative, the Division committed to working with its partners to pilot condensed initial training courses to better accommodate growing workforce requirements.

2. Consistently conducted 'run review' across King County; and

Many BLS agencies conduct their own evaluations of medical incidents after the fact, with the help of training instructors or paramedics. Examining medical performance, decision making and EMT understanding of current education concepts, these "run reviews" are critical to improving EMT performance. Due to limited resources, the level of review, including the types of calls reviewed, is not consistent across all agencies.

The Initiative develops a consistent run review program, providing agencies resources to conduct an expected level of standard case review and subsequent training.

3. Coordinated supplemental EMT training;

EMTs receive supplemental training (instruction beyond the state-mandated continuing medical education requirements) to ensure they are maintaining critical skills. This ancillary training is offered and managed at the local level, on an agency by agency basis, depending on availability and funding.

The Initiative will provide funding and oversight so that all agencies can receive supplemental training led by trainers with complementary skills, and focused on the same topic or trends of other agencies. This will help eliminate training inconsistencies and positively impact overall system performance.

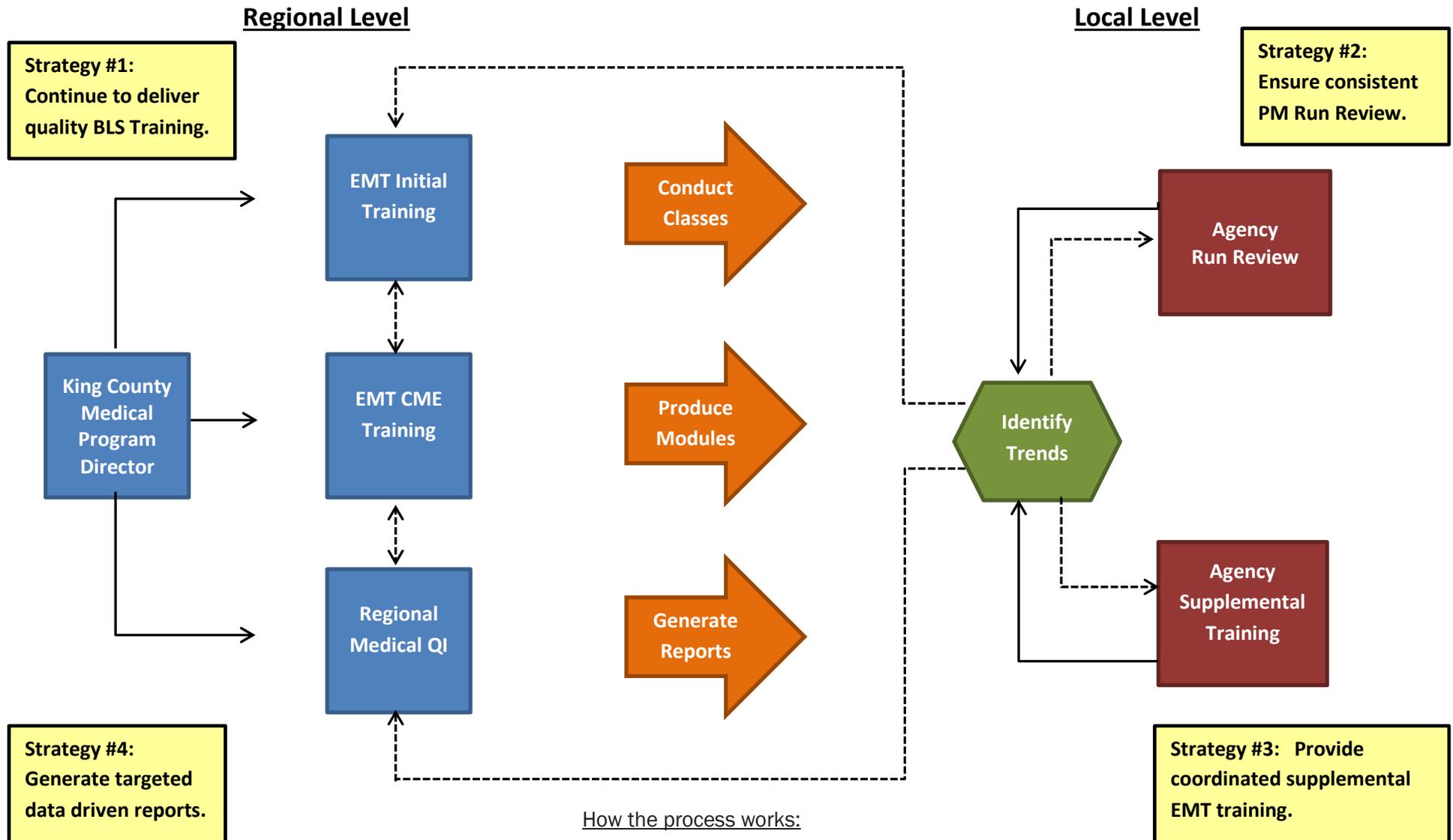
4. Targeted data driven reports on BLS performance to help inform training at both the local and regional levels

The EMS Division frequently audits medical performance to determine if critical skills are being maintained, and protocols are being followed. These audits may be conducted region-wide, or may focus on one specific agency, per a recent occurrence or agency request.

This Initiative will provide oversight to help ensure that these reviews are focused on the same topic and coordinated with other agencies within the system.

## BLS Training & Quality Improvement (QI) Strategic Initiative

**Goal:** Provide standardized and consistent high quality EMT training based on best practice and performance measures to achieve optimal medical outcomes.



Data review (conducted via paramedic run review and targeted data reports) will identify trends and areas for improvement; supplemental training that is specifically focused on these findings will be uniformly provided and better coordinated. Basic EMT training and continuing medical education would also incorporate these issues into their curricula.

## **Independent Advanced Life Support (ALS) Study**

### **Summary of Findings**

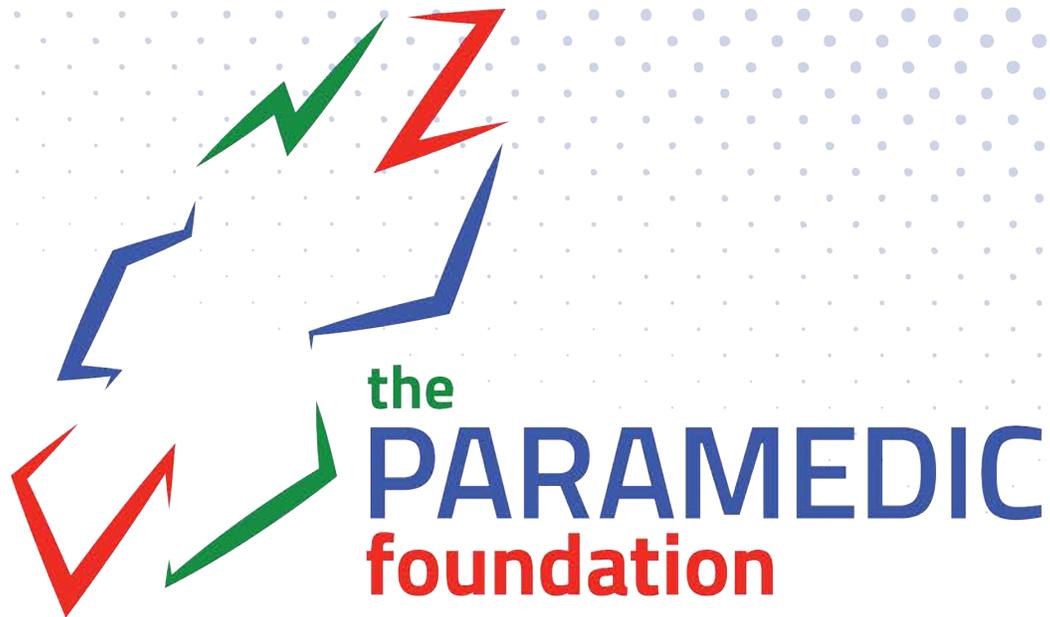
#### **Overview**

The Medic One/EMS 2014-2019 Strategic Plan calls for a study to determine the optimal number (or range) of ALS agencies in King County needed to meet the region's current and future needs. With the help of a panel of ALS and BLS representatives, The Paramedic Foundation (TPF) was selected and retained to conduct the study.

#### **Study Findings**

*TPF interviewed local subject matter experts and evaluated the data generated by the paramedics to conduct an analysis evaluating economy of scale, economy of scope, and alternative models and found:*

- 1. The King County EMS system has enough ALS agencies and ALS medic units within each agency to meet the medical needs of the county.**
  - The current number of ALS units in their current locations is capable of achieving system goals.
  
- 2. King County EMS system costs are greatly reduced by having fewer agencies operating more units per agency.**
  - It is untenable, both economically and operationally, to operate a single unit. It may be unrealistic for any agency to operate fewer than three units yet still maintain the capacity to absorb and respond to logistical, operational and system demand issues.
  - Reducing the number of ALS agencies and increasing the number of medic units operated by each agency will reduce redundant administration and operational support increasing the economic efficiency of the system.
  
- 3. The King County EMS system should consider opportunities to improve the operations, finances and performance of the system as a whole.**
  - Options identified include increasing standardization, reducing duplication, and facilitating the portability of paramedics from one agency or area to another.
  
- 4. Formal changes to the current configuration of ALS agencies should follow a process that includes a clear determination of community need, impartial facilitation and consensus.**
  - Proposals must include a business case outlining costs, impacts, public value, and how the change would either improve the system or fix an existing problem.
  - A process similar to the current levy planning process led by the EMS Division could be used to build consensus, elevate discussion beyond EMS operations, and move the change process forward.



# **King County Emergency Medical Services Division**

**An Advanced Life  
Support Study  
November/2016**

**TABLE OF CONTENTS**

<b>TABLE OF EXHIBITS</b>	<b>3</b>
<b>THE PARAMEDIC FOUNDATION PROJECT TEAM</b>	<b>4</b>
<b>ACKNOWLEDGEMENT</b>	<b>4</b>
<b>EQUITY AND SOCIAL JUSTICE STATEMENT</b>	<b>4</b>
<b>FREQUENTLY USED ACRONYMS</b>	<b>5</b>
<b>EXECUTIVE SUMMARY</b>	<b>6</b>
<b>OPTIMAL NUMBER OF ALS AGENCIES AND MEDIC UNITS PER AGENCY</b>	<b>6</b>
<b>REGIONAL PROCESS FOR RESPONDING TO ALS RECONFIGURATION NEEDS</b>	<b>7</b>
PROCESS RECOMMENDATIONS	7
<b>BACKGROUND</b>	<b>10</b>
<b>KING COUNTY ALS STUDY OBJECTIVES</b>	<b>10</b>
<b>METHODOLOGY</b>	<b>10</b>
QUANTITATIVE DATA & METHODS	10
QUALITATIVE DATA & METHODS	11
<b>KING COUNTY DEMOGRAPHICS</b>	<b>12</b>
DEMOGRAPHIC FORECASTING	16
<b>KING COUNTY EMS SYSTEM</b>	<b>18</b>
EMS DIVISION REGIONAL SERVICES	20
KCEMS RESPONSE ZONES	21
<b>KING COUNTY GOVERNANCE</b>	<b>21</b>
<b>EMS SYSTEM OPERATIONAL EFFICIENCIES</b>	<b>22</b>
EFFECTIVENESS MEASURES	22
MEDIC UNIT RESPONSE TIME	25
<b>EMS ECONOMICS</b>	<b>28</b>
<b>KCEMS ECONOMY OF SCALE</b>	<b>28</b>
<b>KING COUNTY STAKEHOLDER PERSPECTIVES</b>	<b>35</b>
<b>OPTIMAL NUMBER OF AGENCIES</b>	<b>35</b>
<b>OPTIMAL NUMBER OF ALS UNITS PER AGENCY</b>	<b>36</b>
<b>REGIONAL PROCESS FOR RESPONDING TO CHANGES IN THE ALS CONFIGURATION</b>	<b>36</b>
<b>OPPORTUNITIES AND CHALLENGES FOR CHANGE</b>	<b>37</b>
KCEMS CULTURE, LOYALTY, & PRIDE	37
BALANCING DATA AND POLITICS	37
LEVY	38
<b>ANSWERING THE QUESTIONS</b>	<b>39</b>
<b>#1 IDEAL NUMBER OR RANGE OF ALS AGENCIES TO MEET THE REGION'S CURRENT AND FUTURE NEEDS</b>	<b>39</b>
<b>#2 A PROCESS FOR PROVIDING REGIONALIZED ALS AND MODELS FOR THE FUTURE</b>	<b>40</b>
PROCESS RECOMMENDATIONS	40
<b>THE PARAMEDIC FOUNDATION</b>	<b>43</b>

**TABLE OF EXHIBITS**

EXHIBIT 1: KING COUNTY INCORPORATED AREAS ..... 12

EXHIBIT 2: MEDIC UNIT LOCATIONS WITH ROAD NETWORKS ..... 13

EXHIBIT 3: MEDIC UNIT LOCATIONS WITH POPULATION DENSITY (2010) ..... 14

EXHIBIT 4: MEDIC UNIT LOCATIONS WITH URBAN GROWTH AREA BOUNDARIES..... 14

EXHIBIT 5: KCEMS SERVICE AREA DESCRIPTIONS..... 15

EXHIBIT 6: 2010 RESPONSES PER 1,000 (2010 SERVICE AREA POPULATION)..... 16

EXHIBIT 7: FORECAST ANALYSIS ZONES (SOURCE: PUGET SOUND REGIONAL COUNCIL)..... 17

EXHIBIT 8: PROJECTED KING COUNTY POPULATION BY FORECAST ANALYSIS ZONE (SOURCE: PUGET SOUND REGIONAL COUNCIL, 9/2015 FORECAST)..... 17

EXHIBIT 9: KCEMS RESPONSE VOLUME FORECAST..... 18

EXHIBIT 10: KING COUNTY EMERGENCY COORDINATION ZONES ..... 21

EXHIBIT 11: COMMON UHU SCALE ..... 23

EXHIBIT 12: KCEMS EFFICIENCY MEASURES COMPARISON ..... 24

EXHIBIT 13: 2014 INCIDENT DENSITY WITH MEDIC UNIT LOCATIONS ..... 25

EXHIBIT 14: 10 MINUTE DRIVE TIME COVERAGE MAP ..... 26

EXHIBIT 15: RESPONSE TIME RELIABILITY GRAPH..... 27

EXHIBIT 16: ECONOMY OF SCALE COST CHANGES..... 28

EXHIBIT 17: DIFFERENCES IN COST PER CAPITA BETWEEN ALS AGENCIES..... 29

EXHIBIT 18: ALS AGENCY MEDIC UNITS AND SALARIES & BENEFITS PER UNIT HOUR ..... 29

EXHIBIT 19: ECONOMY OF SCALE COMPARISON DATA..... 30

EXHIBIT 20: 2015 COST PER RESPONSE BY NUMBER OF MEDIC UNITS ..... 31

EXHIBIT 21: 2015 COST PER TRANSPORT BY NUMBER OF MEDIC UNITS ..... 31

EXHIBIT 22: 2015 COST PER UNIT HOUR BY NUMBER OF MEDIC UNITS..... 32

EXHIBIT 23: 2015 COST PER CAPITA BY NUMBER OF MEDIC UNITS..... 32

EXHIBIT 24: 2015 COST OF SALARIES & BENEFITS PER UNIT HOUR BY NUMBER OF MEDIC UNITS (NOT INCLUDING SEATTLE FIRE DEPARTMENT) ..... 33



## THE PARAMEDIC FOUNDATION PROJECT TEAM

### The Paramedic Foundation

2800 N 7<sup>th</sup> St.

St. Cloud, MN 56303 USA

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

Nikiah Nudell, MS, NRP

Chief Data Officer / Project Manager

+1.760.405.6869

[nnudell@paramedicfoundation.org](mailto:nnudell@paramedicfoundation.org)

Fred Morrison, BSBA, EMT-P

CEO / Co-Project Manager

+1.970.390.3733

[fmorrison@paramedicfoundation.org](mailto:fmorrison@paramedicfoundation.org)

Gary Wingrove, EMT-P (ret.)

President

+1.202.695.39-1-1

[wingrove@paramedicfoundation.org](mailto:wingrove@paramedicfoundation.org)

Paul Anderson, MS, NRP

Healthcare Consultant

Andrea Corage Baden, PhD, MPH

Social Scientist

Robert McNally, MS

GIS Analyst

David Shrader

EMS Systems Consultant

Davis Patterson, PhD

Social Scientist

## ACKNOWLEDGEMENT

*This project was funded by the King County EMS Levy. The project team thanks the King County Department of Public Health EMS Division and the King County Demographer. The project team also thanks the many people of King County that rearranged their schedules to meet with us and who provided information essential to this report.*

## EQUITY AND SOCIAL JUSTICE STATEMENT

Consistent with King County Ordinance 16948 TPF has strived to integrate equity and social justice foundational practices into our work and recommendations that follow. To that end we will selectively use ‘inequity’ only when it “means differences in well-being that disadvantage one individual or group in favor of another; and when these differences are systematic, patterned and unfair and can be changed because inequities are not random; they are caused by past and current decisions, systems of power and privilege, policies and the implementation of those policies.”<sup>1</sup> If we refer to concepts of ‘social justice’ it will include “all aspects of justice, including legal, political and economic, and require the fair distribution of public goods, institutional resources and life opportunities for all people.”<sup>2</sup>

<sup>1</sup> King County Ordinance 16948 Section G

<sup>2</sup> King County Ordinance 16948 Section H

## FREQUENTLY USED ACRONYMS

The Emergency Medical Services (EMS) field makes frequent use of acronyms that may not be familiar to many persons. To reduce confusion for the purposes of this report the following acronyms are defined as:

AEMT	Advanced Emergency Medical Technician, certified at the Intermediate level
ALS	Advanced Life Support (i.e. EMT-I/AEMT or paramedic level service)
BLS	Basic Life Support (i.e. EMT/EMR level service)
CAD	Computer Aided Dispatch software system
CON	Certificate of Need
E-9-1-1	Enhanced 9-1-1 System (provides number and location services)
EMD	Emergency Medical Dispatch (pre-arrival instructions for 9-1-1 incidents)
EMR	Emergency Medical [First] Responder
EMS	Emergency Medical Services
EMT	EMT certified by Washington Department of Health (BLS)
KCEMS	King County EMS includes regional EMS agencies
KCM1	King County Medic One is the paramedic agency operated by the EMS Division
MPD	Medical Program Director
Paramedic	Paramedic certified by Washington Department of Health
PIER	Public Information, Education, and Relations
PSAP	Public Safety Answering Point
PUM	Public utility model uses a governmental entity to manage EMS in a community
STEMI	ST Elevation Myocardial Infarction
TPF	The Paramedic Foundation
3 <sup>rd</sup> Service	EMS delivered by a local government alongside other public safety departments (police and fire) and employs civilian EMS practitioners.
UGA	Urban Growth Area
UH	Unit Hour is one hour of time for a fully staffed, equipped, and 'ready to respond' medic unit
UHA	Unit Hour Activity is a measure of the fraction of total time that was spent on responses during a specified time period.
UHU	Unit Hour Utilization is a measure of productivity whose numerator is either the number of incidents responded to (UHU-R) or the number of transports (UHU-T) and denominator of the number of unit hours provided.

## EXECUTIVE SUMMARY

The King County EMS (KCEMS) System has been a global leader in paramedic resuscitation science for more than 40 years. Valuable best practices have been compiled to develop the Resuscitation Academy; a joint effort of Seattle Medic One, the University of Washington, and King County Emergency Medical Services. These best practices are now shared with other EMS professionals contributing to improved resuscitation rates worldwide.

KCEMS is a tiered, integrated, and regional system with paramedics deployed from five fire departments and one county operated service. All paramedics in King County are trained through a 3,000-hour University of Washington training program codified in County Ordinance that got its start in the 1970s and is largely modeled after physician emergency medicine training with an extensive mentorship and field training or practicum regimen.

The KCEMS system is funded primarily by taxpayers through a property tax known as the EMS Levy generating approximately \$75 million revenue annually. The levy is on a six-year cycle that must be renewed by the super majority vote of citizens and is managed by the Public Health – Seattle & King County EMS Division.

The EMS Division evaluates the system to ensure it meets the needs of the changing county demographics on a continual basis. This includes but is not limited to determining whether the number of medic units and locations are adequate to meet the needs of the county.

The Paramedic Foundation (TPF), however was retained by the EMS Division to determine the optimal number of paramedic agencies in King County and how many medic units are appropriate for each to operate. Secondly, TPF was asked to develop a regional process for responding to any changes to the current ALS agency configuration and whether that configuration would meet the needs of the county for the next ten years.

In order to assess KCEMS and determine the answers to those questions we collected qualitative and quantitative data. We considered system efficiency through medic unit productivity, economies of scale through costs per capita, and medic unit response times to emergency incidents.

## OPTIMAL NUMBER OF ALS AGENCIES AND MEDIC UNITS PER AGENCY

Based on our quantitative analysis of data from the previous ten years of paramedic-generated patient records and incident data, we found the paramedic agencies are meeting and in some cases exceeding their response time requirements throughout the county. By meeting the demands of the system the agencies demonstrate an adequate number of medic units and personnel are in place today.

We also found the current agency configuration with multiple, decentralized agency operations makes responding to changes in the configuration a slow and expensive process. A configuration change is currently necessary as Vashon Island Fire & Rescue has asked to relinquish its ALS agency.

We conducted interviews with an array of stakeholders including ALS providers, fire districts chiefs, medical directors, dispatch personnel, and elected officials. These individuals provided first-hand knowledge and insights about agency and unit configurations. Key informants were unanimous in saying that “the fewer providers the better” for greater economy of scale, but also generally said the ideal number of units per agency is the same number that their agency already has.

From an efficiency and financial perspective, the optimal number of ALS providers countywide is one. However, that change is not likely to be politically feasible in the near future. Fewer agencies benefit from greater economies of scale. Standardization, reduction of duplication, and portability of paramedics from one agency or area to another can improve the operations, finances and performance of the system as a whole. Rather than reducing the total number of agencies, partners may want to consider an intermediate approach based on these principles that achieve those benefits and may be acceptable in the short term, such as a move towards consolidating agencies operating in Zone 1.

#### REGIONAL PROCESS FOR RESPONDING TO ALS RECONFIGURATION NEEDS

Stakeholders also provided advice during interviews about developing a regional process that can be used in the event changes in the ALS agency configuration are required in the future. Most informants trust the EMS Division to facilitate such a process. Stakeholders viewed both quantitative (e.g., call volume, response time) and qualitative (e.g., geography, a jurisdiction’s motivation, knowledge and availability of required resources and oversight if interested in providing an ALS unit) data as valuable in informing the change process and both should continue to be used in the future.

Several stakeholders noted the value of including elected officials as part of proceedings to build consensus, elevate the discussion beyond EMS operations, and to move the process forward. A process similar to that employed for levy deliberations was offered as a possible structure.

#### PROCESS RECOMMENDATIONS

We recommend the EMS Division continue to periodically and proactively review the system’s medic units and capacity. Evaluation and realignment should be conducted as situations arise, such as any time a provider relinquishes oversight or a need for system realignment is identified by the EMS Division (e.g., failure to meet key performance measures, agency withdrawal, significant changes in incident volumes by zone, or by other factors).

Elements of evaluations should include but not be limited to:

- A clear determination of community need
- A consensus process
- Clear selection criteria for stakeholder inclusion in the consensus process
- Impartial facilitation; and,
- Expert consultation to identify barriers/facilitators for success

A Central Region EMS and Trauma Council policy adopted in 2012 requires requests for geographic expansion or contraction of ALS or BLS service and requests for new ALS or BLS service within King County be subject to the approval of the King County Medical Program Director (MPD) and must be authorized by the Central Region EMS & Trauma Care Council. The MPD and the Central Region Council should be fully informed through access to the business case.

Prior to initiating any formal changes to support a new ALS agency in taking over an existing ALS medic unit or coverage area, we strongly suggest the leadership of that agency communicate with and attempt to develop a proposal jointly with the existing provider. This will avoid the perception that a “hostile takeover” is being made and will allow the affected organizations to collaborate on a viable proposal for the EMS Division to consider.

Proposals for an agency to take over ALS geography from another ALS agency, or to become a new provider must include a business case. The business case must include a detailed description of the meetings and attempted resolution of issues with existing provider(s) and why they were not successful. It must also contain the costs for each levy cycle that include the balancing factors such as how it will impact adjoining agencies negatively, or positively. The agency must discuss what their value added proposition is and what any existing ALS agency would relinquish. The proposals should focus on how the change or addition makes the system better or fixes an existing problem.

If an entity submits a request for consideration as a new ALS provider, then balancing the metrics of the need and the impact on the existing providers should be heavily considered. An approach that mimics the Washington State Department of Health Certificate of Need (CON) process identified in Chapter 246-310 WAC should be used. Specifically, the determination of need described in WAC 246-310-210 can be adapted for KCEMS needs with little difficulty and it already incorporates the concepts of social justice and equity. Specifically, the hospital bed need methodology should be consulted for appropriateness of definitions and process modeling. The specifics could be determined jointly through an existing or a new EMS advisory committee to the EMS Division.

If an agency wants to withdraw then a pre-determined process must be activated to determine if the operation of the medic unit goes up for bid or the bordering agency is forced to take it

over, with clearly defined parameters of the minimum number of units that that should be under an agency's purview.

Future plans are built on forecasts that are greatly impacted by industry, the economy, housing prices, and migration patterns. The EMS Division's levy planning cycle needs to consider scenarios far into the future that are not known today and may not be predictable. The same is true for redesigning the system, including medic unit placement, paramedic supply management in the context of retirements, and changes in educational technologies that could enhance the substantial training provided by the EMS Division to paramedics, EMTs, dispatchers, and others.

The ultimate decision in creating EMS system change will need to be made by the system stakeholders that have ownership in the outcomes: leaders and decision makers from throughout the region, the EMS Division, its many EMS partners, and the public. Many issues do not have easy or quick solutions and may require further analysis and consultation.

We appreciate the foresight of the EMS Division to investigate these topics in advance of the next levy using an independent third party. We provide an objective analysis of the issues and topics identified and have organized this report in a manner friendly for the layperson and public.

*[Continued on the next page]*

## BACKGROUND

### KING COUNTY ALS STUDY OBJECTIVES

The Paramedic Foundation (TPF) was retained by the EMS Division to conduct a study that examines the current Advanced Life Support (ALS) agency structure within the KCEMS regional tiered system in relationship to clinical outcomes and financial impacts. This ALS study has two primary deliverables:

- 1) Evaluate the ALS tier of service delivery and validate the optimal number (or range) of ALS agencies in the County, and the appropriate number (or range) of units operated per agency. The study also considers whether the current service model is designed to meet ALS system needs projected over the next decade (through 2025).
- 2) Develop a regional process for responding to any requests for changes to the current ALS agency configuration (e.g., if an ALS agency ceases operation).

TPF recognizes that the current EMS system provides excellent patient care, and our recommendations ensure that:

- The provision of medical care or patient outcomes does not deteriorate;
- The system remains a tiered, integrated, regional system;
- The delivery of patient care is derived from the highest standards of medical training based on scientific evidence with continued oversight by EMS physicians; and
- The system sustains its focus on operational and financial effectiveness and efficiencies.

## METHODOLOGY

### QUANTITATIVE DATA & METHODS

The project team requested and received the following data from the EMS division (for all agencies except Seattle) and Seattle Fire Department for our analysis:

- Financial summaries (2011-2016 for agencies except Seattle; 2011 through 2015 for Seattle)
- Available electronic Medical Incident Report Forms (eMIRF) from 2006 through mid-2016 for all agencies except Seattle
- Computer Aided Dispatch (CAD) system summary data for Seattle 2006 through 2015

Note:

Patient identifying information was removed prior to our response data analysis with incident locations identified by a simple grid number provided by the EMS Division.

Seattle is in the process of converting paper records into electronic records by scanning them into a software system. Seattle's manual process is six to nine months behind and may be

incomplete, limiting our primary data analysis to only data available from the Computer Aided Dispatch (CAD) system. This did not include detailed data for 2015 and that limits our comparative analysis as noted where applicable in this report.

We also requested demographic data from the King County Demographer and sourced data from the US Census website and the National EMS Information System (NEMIS) website.

In an effort to make meaningful distinctions between agencies, models and systems, several different ratios were examined. Since agency revenue is based on per unit reimbursement from the levy pool, only moderate differences can be found when evaluated on a per agency basis. However, as we will discuss through the report other measures were identified and used in our analysis. Several cost ratios were calculated:

- Cost per unit hour
- Salaries and benefits per unit hour
- Unit hour utilization
- Cost per transport
- Cost per response
- Cost per capita

---

#### QUALITATIVE DATA & METHODS

Between mid-September and early October 2016, TPF conducted interviews with 21 stakeholders, including fire chiefs from all three ALS zones, medical directors, dispatch directors, and elected officials. A TPF team of five or six conducted interviews in a semi-structured manner to address the two primary research questions and to elicit related ALS service issues.

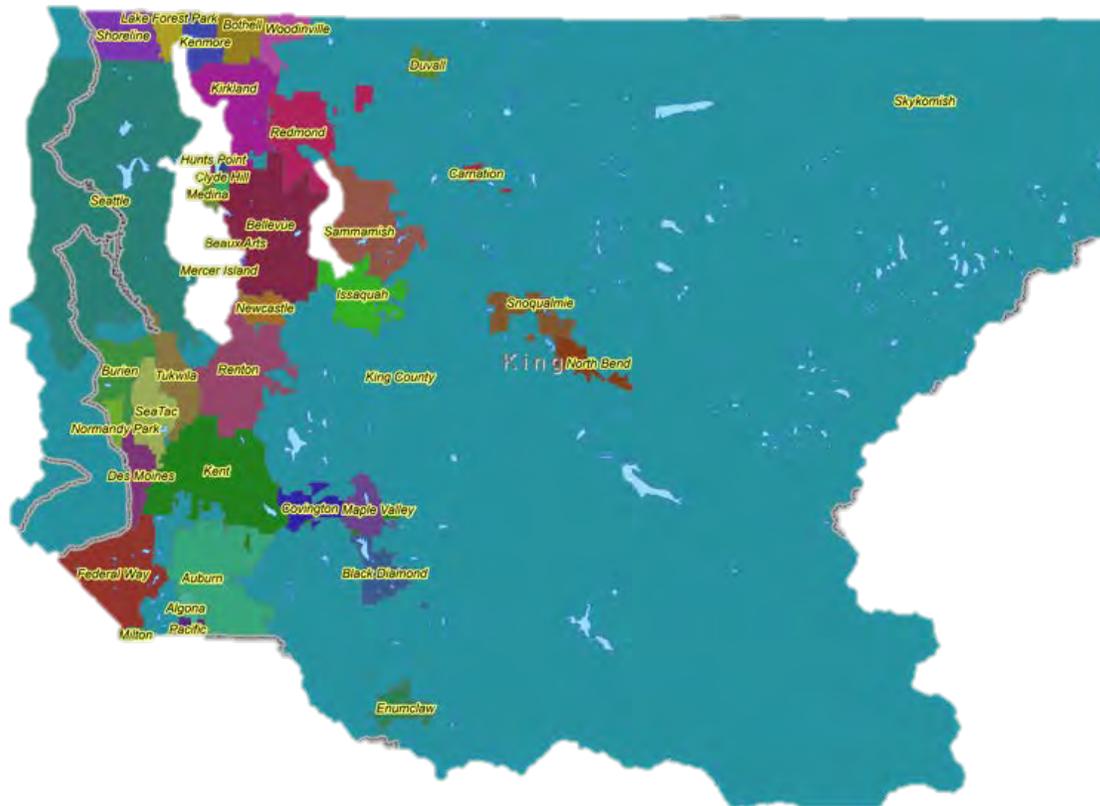
Detailed handwritten notes were recorded, compiled, analyzed, and thematically coded using Atlas.ti qualitative software. This systematic data synthesis was employed to objectively capture the multitude of viewpoints expressed by various stakeholders.

This report does not contain all of the analysis we performed on information we collected as some of the key informant input validated a good practice or was otherwise helpful, but may not have addressed the primary study questions and as a result do not require specific mention in the report.

*[Continued on the next page]*

## KING COUNTY DEMOGRAPHICS

Key to understanding how the history of KCEMS progressed into the mature system that exists today is awareness of the geographic challenges and urban growth over the past forty years.



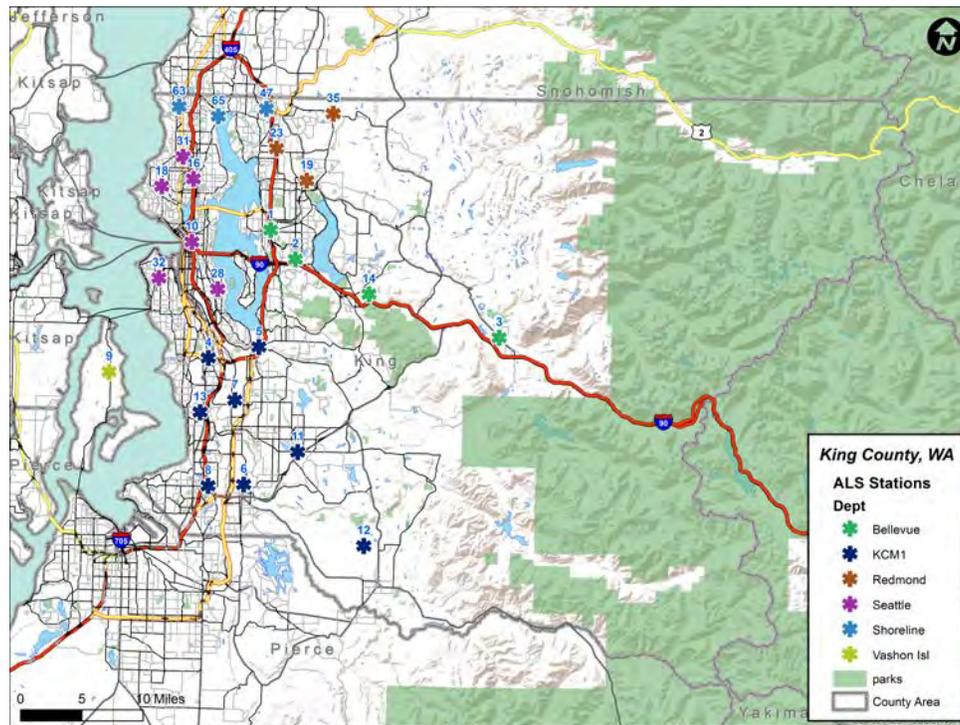
**Exhibit 1: King County incorporated areas**

The Seattle-Tacoma-Bellevue, WA Metropolitan Statistical Area (MSA) is the country's 14<sup>th</sup> most populous (Census 2012) with a 2010 total population of 3,439,809. King County is part of the MSA, is located in western Washington State, and includes 2,116 square miles. King County is bordered on the west by the Puget Sound and on the east by the Cascade Mountains and includes both Vashon and Maury Islands. In 2015 the population (2015 US Census Bureau estimates) was estimated to have increased 9.6% over 2010 reaching 2,117,125. At 1,000 persons per square mile, King County is the most densely populated county in the state.

The City of Seattle has been the seat of King County since January 1853. Seattle currently contains 32% of the county population with an estimated population of 684,451 (2015 Census estimate), a 12.5% increase over 2010 population levels. Seattle's population is spread over 84 square miles, with a density of 8,148 persons per square mile.

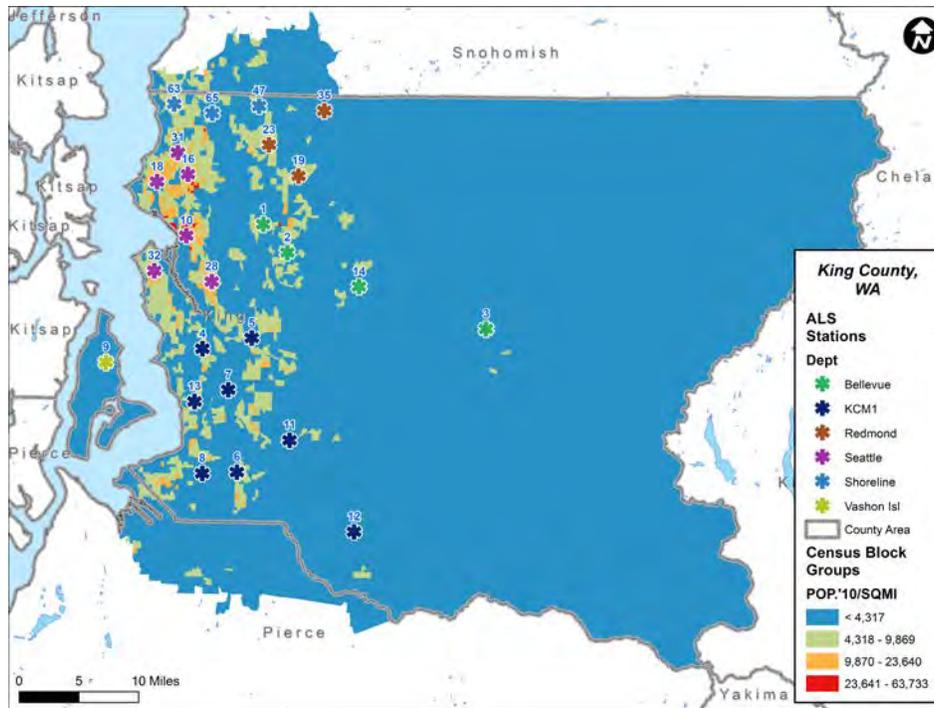
The City of Bellevue contains 7% of the county population. Bellevue's estimated population is 139,820 (2015 Census estimate), a 9.3% increase since 2010. Covering 32 square miles, Bellevue has a population density of 4,320 persons per square mile.

While the City of Seattle is the most densely populated municipality in the county, there are pockets of dense population north and south of the city. Most of the ALS medic unit station locations are within or nearby areas of higher population.



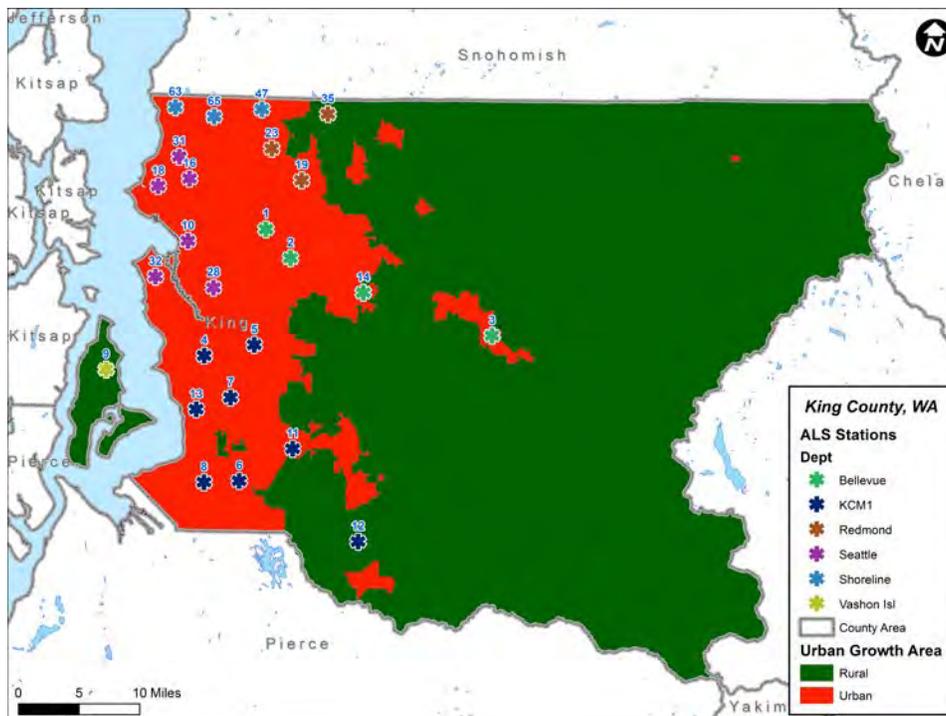
**Exhibit 2: Medic unit locations with road networks**

*[Continued on the next page]*



**Exhibit 3: Medic unit locations with population density (2010)**

The ALS medic unit station locations are primarily on the west side of the county where the vast majority of the population and transportation infrastructure has been built.



**Exhibit 4: Medic unit locations with Urban Growth Area boundaries**

The eastern two-thirds of King County are primarily rural in nature due in part to the Cascade mountain terrain and protected lands that are inland away from the seaport. These factors limit urban growth. The King County Comprehensive Plan designates an Urban Growth Area (UGA) that includes areas and densities sufficient to permit the urban growth that is projected to occur in the County for the succeeding 20-year period. Areas within the UGA boundaries are designated for higher density growth while areas outside are designated for low density growth. All but two ALS medic unit stations are within the UGA Boundary.

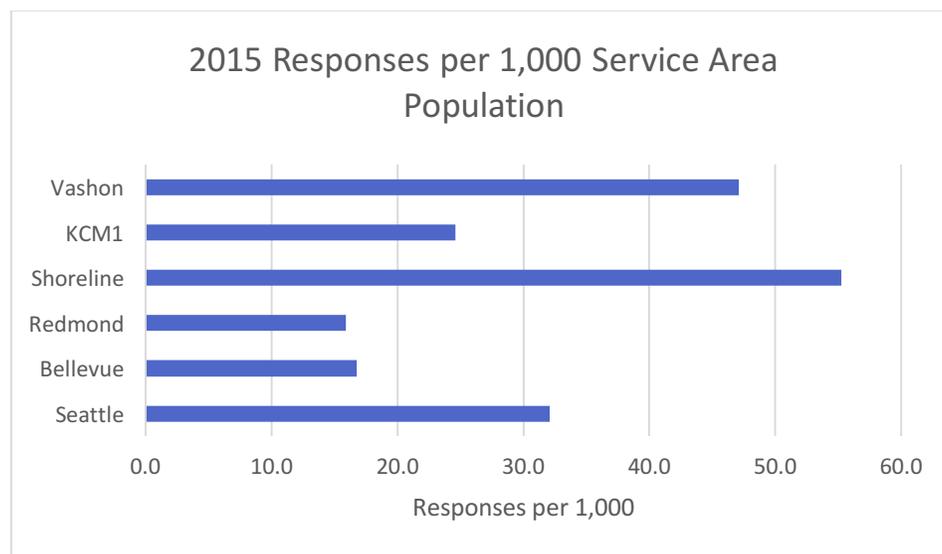
**Exhibit 5: KCEMS service area descriptions**

Paramedic Agency	Paramedic Units	Paramedics	Service area(s)	Service Area Population* (2015)	Service Area Density* (2010)
Seattle Medic One	7	73	Seattle	620,532	3,103
King County Medic One	8	71	Auburn, Black Diamond, Burien, Covington, Des Moines, Enumclaw, Federal Way, Kent, Maple Valley, Pacific, Renton, Seatac, Sea-Tac Airport, Skyway, Tukwila, White Center	699,821	829
Shoreline Medic One	3	29	Bothell, Kenmore, Lake Forest Park, Shoreline	79,578	3,979
Bellevue Medic One	4	37	Bellevue, Issaquah, Mercer Island, North Bend, Sammamish, Snoqualmie	321,430	332
Redmond Medic One	3	31	Duvall, Kirkland, Redmond, Woodinville	234,757	1,030
Vashon Medic One	1	7	Vashon and Maury Island	10,741	215
<b>Total</b>	<b>26</b>	<b>248</b>		<b>1,931,256</b>	

\* 2015 Service Area Population is calculated by multiplying the sum of the 2010 census tract populations for each tract designated per agency by 1.1. Density is then calculated by dividing that calculation with the summed square mileage of those census tracts.

Exhibit 5: KCEMS service area descriptions represent the service area population and population density by ALS agency (data sourced from National EMS Information System's Service Area Builder using 2010 census tract data).

The service areas represent the actual populations served by each agency's primary area of response. Approximately 14% of King County's population reside in unincorporated areas on the Eastern side of the county. KCM1, Bellevue Fire Department, and Redmond Fire Department have primary responsibility for the Eastern and unincorporated areas which are. This method objectively "assigns" the population to the agency with the closest medic unit station responsibility for response.



**Exhibit 6: 2010 Responses per 1,000 (2010 service area population)**

Exhibit 6: 2010 Responses per 1,000 (2010 service area population) shows the variability in the number of responses per capita by ALS agency, which also represent geographical variances within the county.

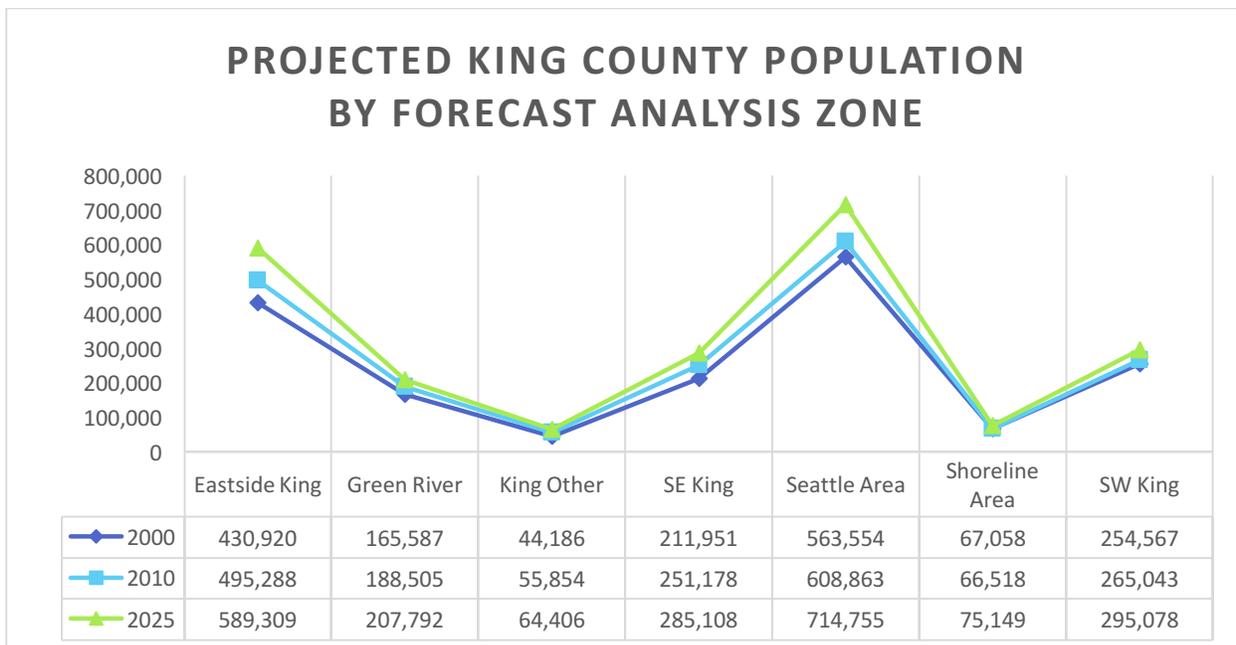
#### DEMOGRAPHIC FORECASTING

The Puget Sound Regional Council has developed "forecast analysis zones" for purposes of forecasting future growth within the region (see Exhibit 7).

*[Continued on the next page]*

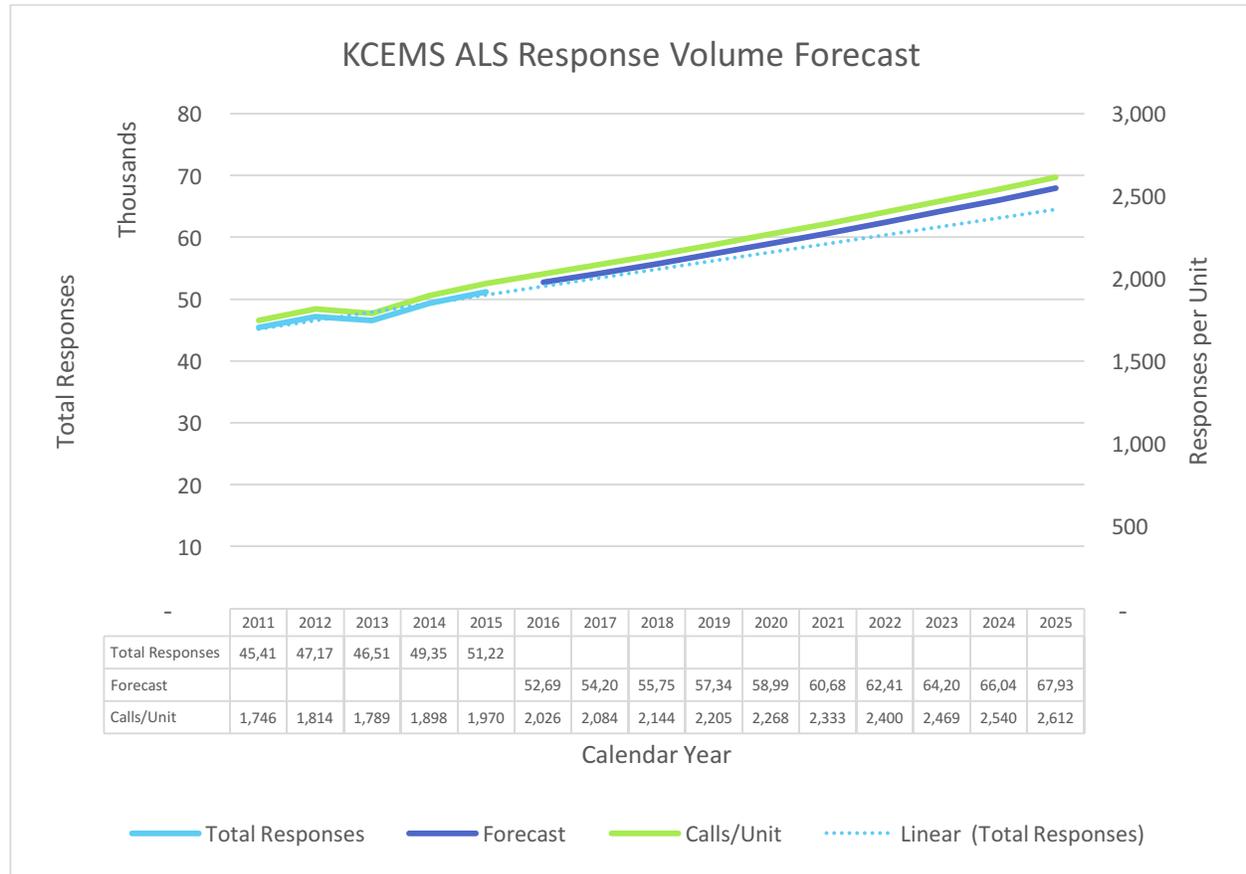


**Exhibit 7: Forecast Analysis Zones (Source: Puget Sound Regional Council)**



**Exhibit 8: Projected King County population by Forecast Analysis Zone (Source: Puget Sound Regional Council, 9/2015 forecast)**

Population changes and trends factor into the forecasting for planning purposes. In considering the Puget Sound Regional Council’s forecasts for the next ten years it is prudent to recognize that an increasing volume of incidents will occur in the Eastside King and Seattle areas; with more modest growth in the remaining areas. The growth patterns prior to 2010 are not the same as those forecasted for the next ten years. Noticeable growth in the Shoreline Area, Green River, SE King, SW King and King Other zones will be modest while the Eastside King and Seattle Area growth will be stronger (Exhibit 8).



**Exhibit 9: KCEMS response volume forecast**

The response volume forecast (simple linear trend based on forecasted population trends) shows an increase in total KCEMS system volume of 29% over the next decade (Exhibit 9).

**KING COUNTY EMS SYSTEM**

The KCEMS system is comprised of six pre-hospital regional ALS agencies operating 26 medic units throughout King County: one third-service agency (also known as King County Medic One or KCM1), three municipal fire departments (Seattle Fire Department, Bellevue Fire Department, and Redmond Fire Department), and two fire districts (Shoreline Fire Department, and Vashon Island Fire & Rescue). In addition, a contract with Snohomish County Fire District 26

brings ALS agencies to the Skykomish/King County Fire District 50 area, from Baring to Stevens Pass.

In many parts of the county private ambulance companies co-respond either automatically or upon request and complete a majority of the lower acuity transports.

There are twelve Public Safety Answering Points (PSAPs) in King County that each transfer medical related 9-1-1 incidents to one of five KCEMS dispatch centers in Seattle and throughout King County. Dispatchers determine the level of care necessary for immediate dispatch following medically approved emergency dispatch triage guidelines.

There are eighteen hospitals and three stand-alone emergency departments in the county. For specialty care, there is one level I trauma center, four level III trauma centers, three level IV trauma centers and one level V trauma center. Categorized Cardiac and Stroke Centers are also distributed in the heavily populated areas along I-5 and I-405 and I-90. There are twelve level 1 and four level 2 cardiac centers; and four level 1, seven level 2, and five level 3 stroke centers in the county. The State's only Level I trauma center is located in Seattle and it serves patients from Washington, Wyoming, Alaska, Montana and Idaho.

The KCEMS system operates in a coordinated manner by numerous agencies that provide high quality pre-hospital medical care across King County. It is this unique integrated regional system of consistent, standardized, and collaborative medical care that allows the system to excel and achieve the best possible patient outcomes.

A "Tiered Response System" is defined by the EMS Division as an EMS response system that uses dispatch criteria to differentiate between BLS and ALS practitioner response levels to 9-1-1 incidents. The KCEMS tiered response system consists of primarily BLS and ALS agencies but there are also alternative response models for some lower acuity 9-1-1 incidents (Section 5.17 of Seattle & King County Public Health Policy PHL 9-2 DPH, 2012).

An "Integrated Regional System" is defined by the EMS Division as the coordination of EMS system components, including BLS and ALS agencies that respond in a seamless manner regardless of jurisdictional boundaries, in order to achieve the highest level of pre-hospital patient care (Section 5.10 of Seattle & King County Public Health Policy PHL 9-2 DPH, 2012).

The KCEMS tiered response system increases patient safety and care because it does not over-dispatch paramedics to incidents that do not need their level of care. By managing the system this way a smaller number of paramedics are used and each has the chance to perform low-volume high-risk procedures with greater frequency.

Systems that are all ALS dilute the ability of the paramedics to perform low-volume high-risk procedures because a significantly larger number of paramedics are required in the workforce,

and all of them respond to incidents where many of them will not have the opportunity to use any paramedic skills. In addition, as a practical matter, dual paramedic systems allow weaker-skilled providers to “hide” behind a stronger provider and the weaker provider is much harder to detect through quality improvement activities.

---

#### EMS DIVISION REGIONAL SERVICES

The EMS Division manages the core regional services and supports other key elements of the integrated regional system. The EMS Division is essential to enabling KCEMS agencies to provide the highest quality out-of-hospital emergency care available. Regional coordination ensures pre-hospital patient care is delivered at the same standards across the region; regional policies and practices that reflect the diversity of needs are maintained; and, local area service delivery is balanced with centralized interests in an efficient manner.

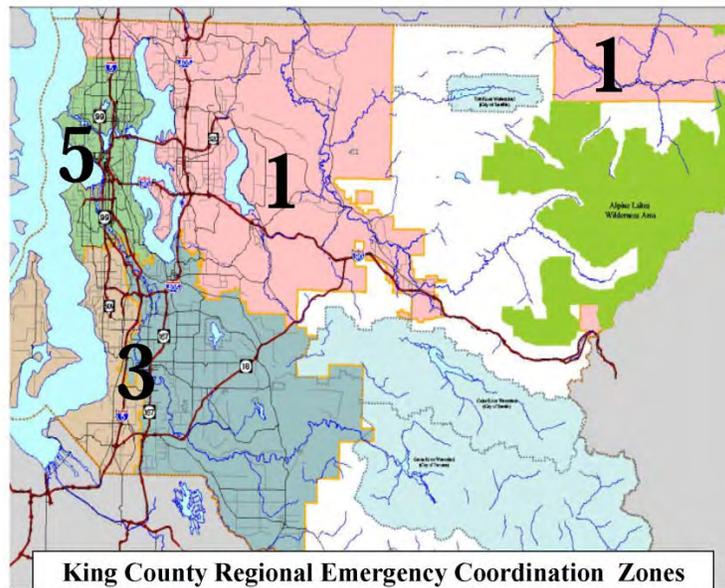
The EMS Division also manages innovative projects and operations known as Strategic Initiatives, which are designed to improve the quality of KCEMS agencies and manage the growth and costs of the system. Regional Strategic Initiatives have allowed the KCEMS system to maintain its role as a national leader in the field and have been key in the system’s ability to manage its costs.

Examples of Regional Services and Regional Strategic Initiatives include:

- Uniform education of more than 4,200 EMTs and dispatchers
- Regional medical control and quality improvement for over 30 EMS agencies
- Injury prevention public health programs
- Regional (centralized) data collection and analysis
- Regional planning for the KCEMS system
- Financial/administrative management
- More than 10,000 public school students per year are taught CPR
- BLS efficiencies with a stated objective to reduce unnecessary requests for paramedics by EMTs

*[Continued on the next page]*

## KCEMS RESPONSE ZONES



**Exhibit 10: King County emergency coordination zones**

Exhibit 10 shows King County emergency coordination zones. KCEMS Zone 1 is the North and East County areas and are served by Shoreline Fire Department, Redmond Fire Department, and Bellevue Fire Department. Zone 1 borders the Seattle Fire Department border at the north city limit and Renton Fire Department's border at its northern limit. KCEMS Zone 1 includes the cities of: Bellevue, Bothell, Duvall, Issaquah, Kenmore, Kirkland, Lake Forest Park, Mercer Island, North Bend, Sammamish, Shoreline, Snoqualmie, Redmond, and Woodinville.

KCEMS Zone 3 is the South County area served by KCM1 and includes the cities of Auburn, Black Diamond, Burien, Covington, Des Moines, Enumclaw, Federal Way, Kent, Maple Valley, Pacific, Renton, Seatac, Sea-Tac Airport, Skyway, Tukwila, and White Center.

KCEMS Zone 5 is served by Seattle Fire Department and includes the entire city.

## KING COUNTY GOVERNANCE

The King County EMS Division resides within King County's Public Health Department. King County is governed by the Metropolitan King County Council (MKCC), a district elected legislative body consisting of nine members. The Council adopts laws, sets policy, and holds final approval over the budget. The council is free to pass all laws and ordinances it sees fit to further its operations, within the boundaries of the state and federal constitutions.

Currently KMCC has nine standing policy committees and three regional committees. Members of the Seattle City Council and representatives from suburban cities and local sewer districts are also members of the regional committees. In addition, all nine members of the Council meet as a Committee of the Whole to discuss broad-reaching legislation and issues.

The King County Executive is the highest elected official representing the government. The Executive is not a member of the County Council, and is a separately elected official who submits legislation to the County Council for consideration. Each year in October, the Executive submits a proposed budget to the County Council for the operation of County government for the coming year. The Executive also has veto power over ordinances passed by the County Council.

### EMS SYSTEM OPERATIONAL EFFICIENCIES

EMS systems exist in a complicated regulatory and economic environment. They exist at the nexus of healthcare, public safety, and public health, and often use a combination of funding mechanisms from each. EMS systems are constrained by federal, state and local regulation in terms of system design, response reliability, certification, licensing and healthcare compliance. Each level of regulation adds cost to the system but also improves the quality, reliability, and responsiveness to local expectations as well.

EMS systems exist within the realm of public utility economics such that most of the cost is in establishing the network. As an essential public service that is locally regulated, EMS shares many economic attributes with public transportation, water, power and other utilities. As with the fire service, most of the cost of an EMS agency is associated with “readiness” (the ability to respond reliably to the next request for service).

### EFFECTIVENESS MEASURES

Some public services may be uncomfortable with or unaccustomed to measures of productivity but one of the hallmarks of the KCEMS system is its interest in efficiency. While KCEMS agencies may not have many comparable peer groups outside of the county from which benchmarks can be set, the benchmarks within the county can and should be monitored and thus are able to be managed.

An objective measure of the effectiveness of productive effort is based on the deployment of ALS medic units throughout the county. Unit hour utilization (UHU) is a measure of productivity that is often used as a proxy for EMS system efficiency. UHU identifies the most efficient providers of an EMS service by their ability to produce a given level of output using the least number of inputs.

UHU measures the productivity of the inputs (ALS medic unit hours) with the amount of time they are treating or transporting patients for productive activity. A unit hour (UH) is a fully staffed medic unit available for response to incidents for one hour. Thus the UHU is typically calculated by dividing the number of responses (UHU-R) or the number of transports (UHU-T) by the number of UHs consumed to cover those responses or transports.

A higher UHU indicates better productivity although at a certain point it can be so high that issues of practitioner fatigue or other concerns may become an issue. As a productivity measure in urban or suburban systems (rural areas provide geographic coverage and rarely have the ability to improve productivity). A UHU of 40% is generally considered a ceiling for 24 hour shifts.

Common UHU Scale for Urban & Suburban EMS	
45% – 55%	High Utilization
35% - 45%	Optimal Utilization
25% - 35%	Average Utilization
15% - 25%	Below Average Utilization
1% - 15%	Poor Utilization

**Exhibit 11: Common UHU scale**

Workload expressed as Unit Hour Activity (UHA) more accurately measures the workload pressure put on the paramedics. It also somewhat levels the playing field for differences in driving times between remote, rural, suburban, and urban agencies. This is an important consideration because research in the EMS, medicine, and transportation sectors supports that overworked staff make more mistakes and reduce the quality of patient care. UHA is calculated by using the total number of hours that units are engaged on calls by the total number of unit hours, or put more simply it is the fraction of the period that is spent engaged in responses.

Hypothetically, if a medic unit were to never respond, it would always be available for a response. Conversely, if a medic unit were to go on every response, it would have limited availability for the next response and in some cases would not be able to respond (such as simultaneous dispatches to different incidents). Therefore, it is important for KCEMS to balance *readiness* (response time) to respond with the *availability* (factoring both UHU and 9-1-1 calls it was unavailable to be dispatched to) to respond, for a given medic unit. KCEMS could develop a composite measure that balances efficiency with capacity.

Other composite measures relying on UHU include subjective data such as crew fatigue and worker dissatisfaction with other objective points such as sick calls, worker compensation claims, etc., to give leaders a measure and “feel” for when new units are needed or when productivity starts to decrease or paramedics become bored. When measured over time these can be powerful indicators of system health.

Another distinction of KCEMS is an intense focus on minimizing the incidents that paramedics respond to and then minimizing the number of transports they perform. As such it is appropriate to measure the UHU for both responses and transports on an ongoing basis and to use these figures for discussing and managing the deployment of the system to ensure that the

design of the system and trends in transportation decisions are appropriate to meet the needs of the patients requiring them.

For all current ALS medic units in KCEMS, the number of UHs per unit per year is 8,760 hours ( $24 * 7 * 365$ ). That means a 24-hour ALS medic unit that runs eight incidents during a 24-hour shift would have a UHU-R of 0.33 or 33% ( $8/24$ ). If it transports patients in 4 of those incidents, it would have a UHU-T of 0.17 or 17% ( $4/24$ ). The UHA would determine that the four responses without a transport averaged 45 minutes ( $4 * 45 = 180$  minutes) and the four transported averaged 75 minutes ( $4 * 75 = 300$  minutes) for a total of 480 minutes of time spent on responses in 24-hours (1,440 minutes) for a fraction of 0.375 or 37.5%.

In many EMS systems, when a unit reaches a UHU-R of 40%-50% (9-12 responses per 24-hour shift), concerns are raised about the workload and its potential effect on the practitioners in terms of sleep time and fatigue on long shifts. Since KCEMS units fall well below this level, it is not likely to be a primary concern, in fact KCEMS medic units on average would be considered under-utilized in most systems.

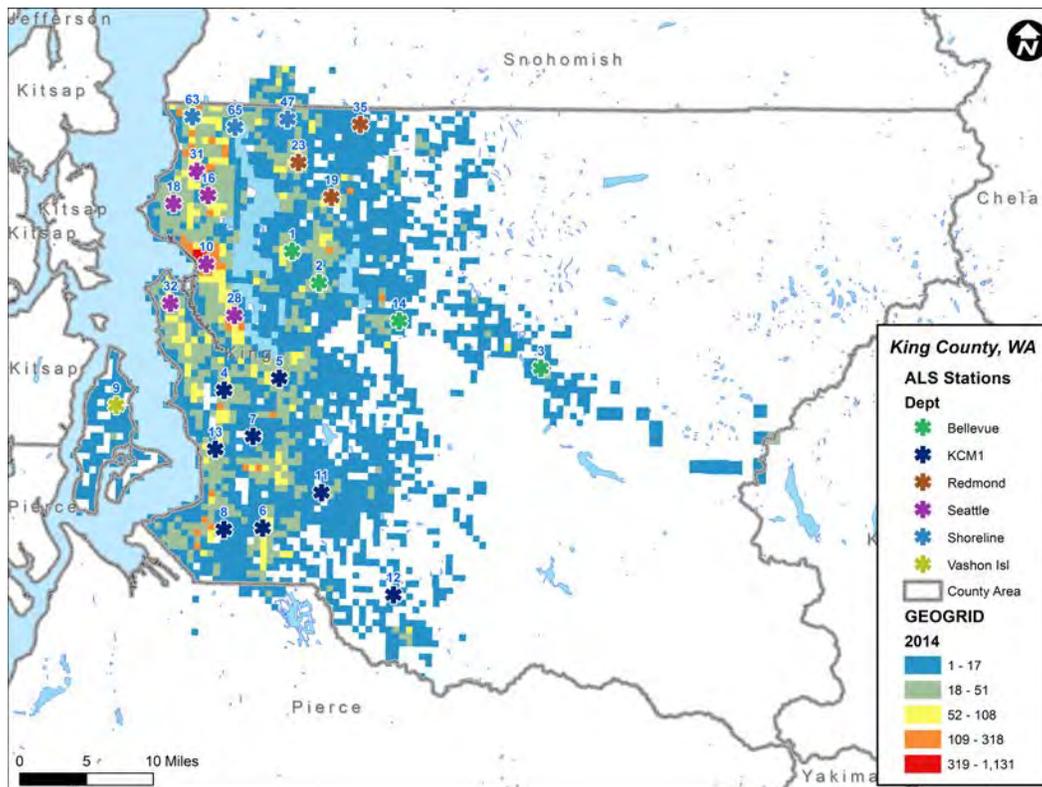
2014 KCEMS Efficiency Measures Comparison			
Agency	UHU-R	UHU-T	UHU-A
Vashon Island Fire & Rescue	6%	2%	6%
Redmond Fire Department	14%	4%	10%
Bellevue Fire Department	15%	6%	10%
Shoreline Fire Department	17%	7%	13%
KCM1	23%	6%	14%
Seattle Fire Department	31%	11%	17%

**Exhibit 12: KCEMS efficiency measures comparison**

These UHU levels (Exhibit 12) demonstrate that Seattle Fire Department has the highest productivity metric; this is not surprising considering the entire urban geography served by the department. Among the more widespread urban-suburban mix of the other agencies, KCM1 stands out in productivity. This too is not surprising due to the single role nature of the KCM1 practitioners and the design of the response system in the South County area. The single unit Vashon system is a geographical coverage unit and thus will likely never significantly improve its UHU. Not shown is a recent trend in that KCM1 has become increasingly productive (an increasing UHU-R) over the last three years while the fire-based systems have remained unchanged.

### MEDIC UNIT RESPONSE TIME

The public and elected officials focus on response times primarily because it is one of the few things that they both measure and understand. The public is unaware of adherence to protocols, drug dosages and other components of competent quality clinical care, but they know how quickly the system responds to their calls for help.

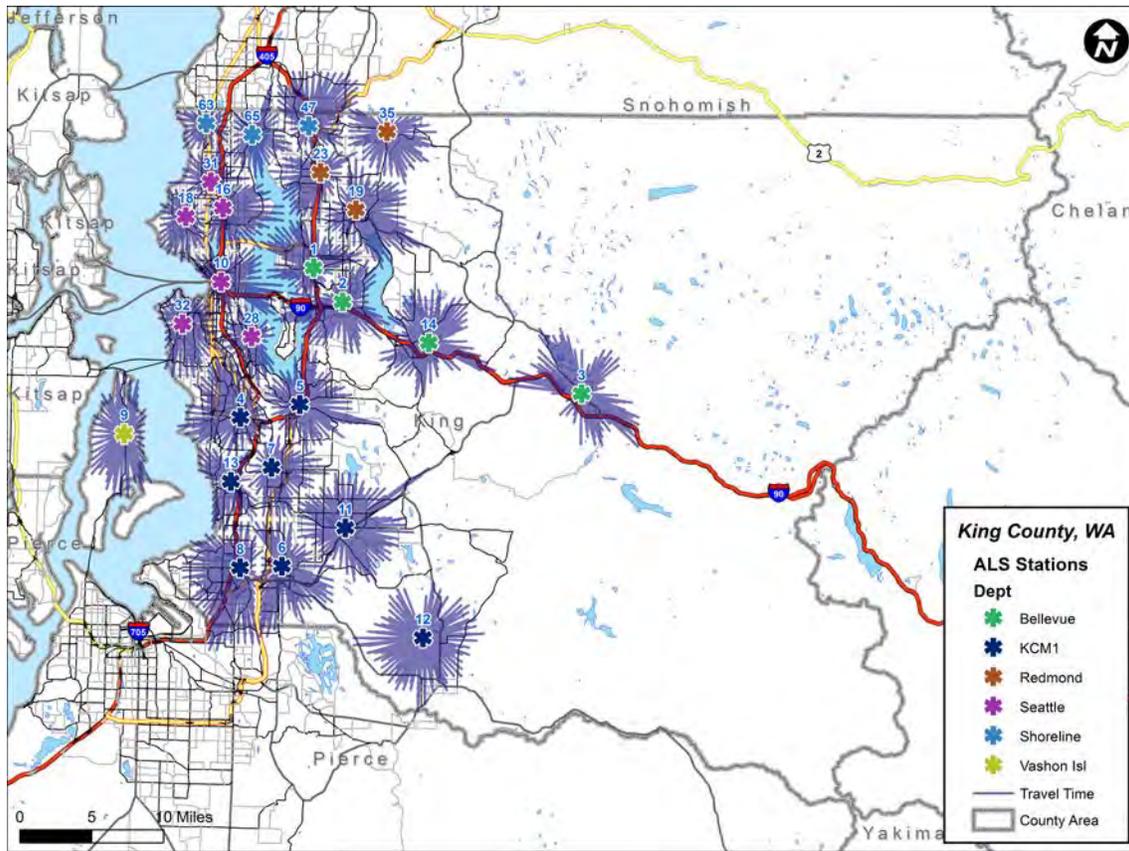


**Exhibit 13: 2014 incident density with medic unit locations**

Exhibit 13 shows the resulting number of incidents within each grid box when the incident data was joined to the geographic grid. This map demonstrates that heavier volumes of activity mostly exist nearby the ALS medic unit stations and coincide with population and infrastructure.

Travel time is impacted not only by driving speed but also distance from the station, weather, construction, traffic congestion, and physical and manmade barriers that will delay the units from reaching the scene. Once on scene, the patient could be several stories up within a building, on the far end of an industrial or commercial facility, or within a maze of hallways within a residential facility leading to an extended patient contact time.

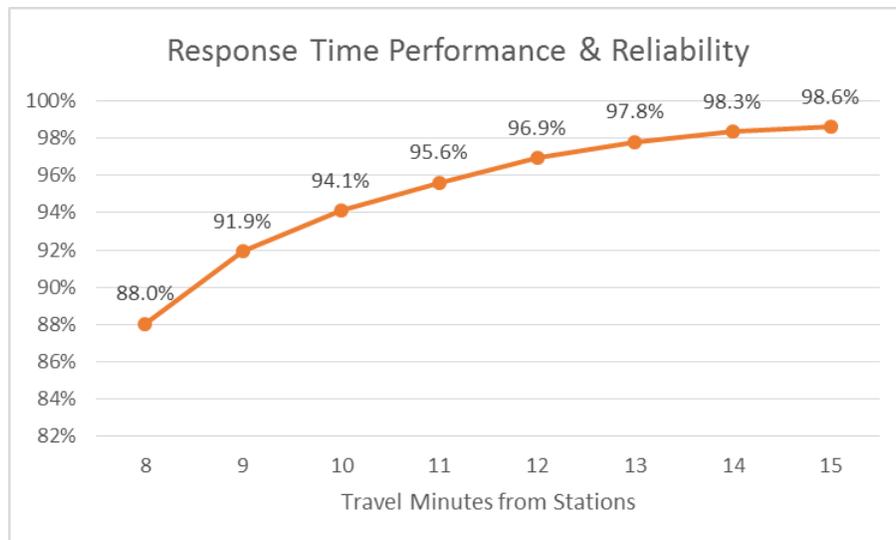
While travel time is somewhat variable, we conducted a geographic analysis using station locations and the actual average street network speeds to create a model of expected response times.



**Exhibit 14: 10-minute drive time coverage map**

Exhibit 14’s geographic analysis model shows the coverage for up to a 10-minute drive time from each ALS medic unit station. This depicts the “average” coverage for the required response times. The 2016 EMS Division’s Annual Report reports that ALS Agencies (not including Seattle Fire Department) reached nearly 80% of incidents in less than the 10-minute standard (averaging 8 minutes), and 94% of incidents in less than 14 minutes. Thus the ALS agencies are meeting their response time requirements for the current level of demand with the current number of ALS medic units.

*[Continued on the next page]*



**Exhibit 15: Response time reliability graph**

Exhibit 15 shows that the current number of ALS medic units (26) are capable of achieving the goals of the EMS Division. This analysis should be monitored into the future as any variance of the result compared to the goal may require station moves, unit standby at other locations, or additional units within existing stations.

#### **Key Findings**

- The level of utilization among KCEMS ALS agencies is low compared to industry standard benchmarks.
- Seattle Fire Department stands out as a productive urban system while KCM1 is a productive suburban system.
- KCEMS ALS agencies are meeting their response time requirements with the current number of ALS medic units.

## EMS ECONOMICS

The next criteria for determining the optimal number or range of ALS agencies are the economics. For the public benefit in King County we chose to evaluate the economy of scale and economy of scope; and to consider alternative models.

An economy of scale for EMS occurs when the cost per UH decreases while the number of responses increases. This occurs where there are high fixed costs and constant marginal costs, or when there are low fixed costs and declining marginal costs. The inputs are unit hours and the outputs are responses.

Closely related to the question of economies of scale is the issue of economies of scope. Whereas economies of scale relate primarily to the efficiencies associated with the level of production of a single product type, economies of scope relate to efficiencies that accrue from combining processes or activities in the production of multiple outputs (Abbott, Malcolm, and Bruce Cohen. "Productivity and efficiency in the water industry." *Utilities Policy* 17.3 (2009): 233-244). This speaks directly to the regional services provided by the EMS Division.

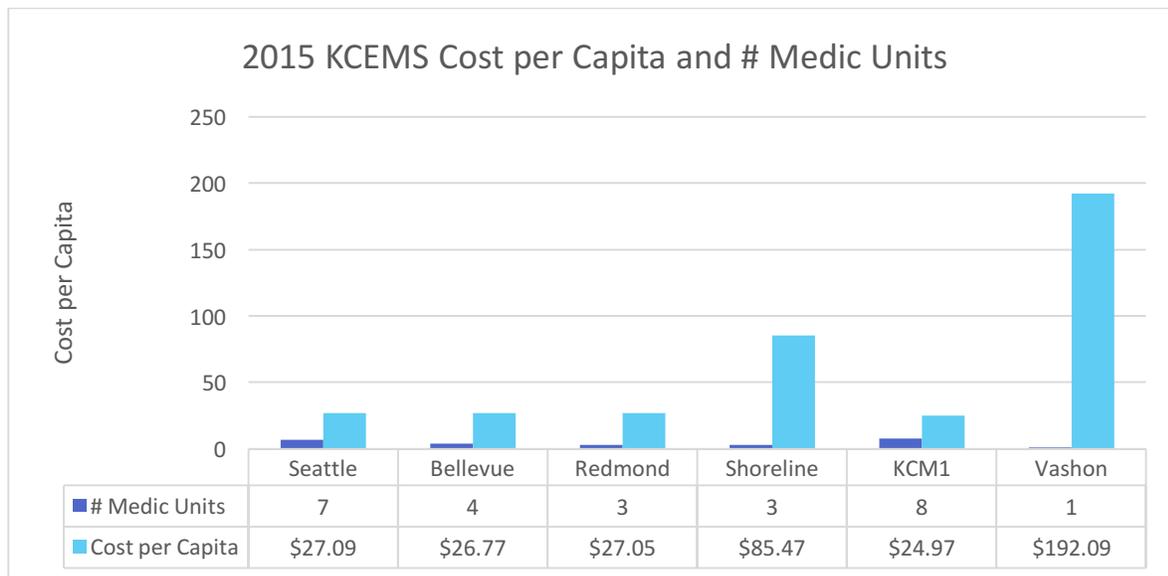
## KCEMS ECONOMY OF SCALE

As described above, an economy of scale for EMS occurs when the cost per UH decreases while the number of responses increases. Although six agencies are too few to determine statistical significant correlations, the data show that the cost per capita decreases \$17.98 (p= 0.11), the cost per response decreases \$353.42 (p-value 0.05), and the cost per transport decreases \$1,055.73 (p= 0.14) for each additional medic unit operated by an agency - even though the cost per unit hour may increase slightly at \$3.15 (p= 0.2) per unit hour for each additional unit operated.

For every medic unit operated by an agency the:		p-value
Cost per capita decreases	\$17.98	0.11
Cost per response decreases	\$353.42	0.05
Cost per transport decreases	\$1,055.73	0.14
Cost per unit hour increases	\$3.15	0.2

**Exhibit 16: Economy of scale cost changes**

*[Continued on the next page]*



**Exhibit 17: Differences in cost per capita between ALS agencies**

The single largest contributor to the ALS agency budgets is personnel salary and benefits. All ALS agencies are in a negotiated salary environment; thus there is little variation both in total salaries and in ratios of salary per unit hour. Salaries and benefits comprise 80-90% of ALS agency costs and would also vary by number of ALS medic units. KCM1 salary and benefit costs per medic unit are significantly lower when compared with the other ALS agencies.

This demonstrates an appreciable economy of scale. It was not within the scope of this study to complete a detailed ALS agency costing study, but such a study could uncover why there are cost per capita differences between Shoreline and the other agencies.

Agency	# Medic Units	Salaries & Benefits per UH*
Vashon	1	\$209.56
Redmond	3	\$215.14
Shoreline	3	\$228.84
Bellevue	4	\$203.72
KCM1	8	\$190.99

**Exhibit 18: ALS agency medic units and salaries & benefits per unit hour**

\*Seattle Fire Department was unable to provide a breakdown of its costs sufficient to identify the salary & benefit costs for the department.

To maximize economic efficiency a manager seeks the greatest UHU from the lowest cost per UH. In rural areas, there may be no opportunity to improve productivity. In rural areas management of the UH cost is the most important issue for economic efficiency. Although labor is the largest cost of all ALS agencies at 80-90% of expenses, even small improvements in decreasing costs for supplies, capital items and medications, may make a noticeable difference in the UH cost.

In urban areas higher volume and productivity are even more powerful than UH cost in reducing the cost per incident and cost per transport. For this reason, many systems buy more expensive and reliable equipment and pay their paramedics higher wages to work in a more productive environment, often using variable staffing and fluid deployment.

Agency & # Medic Units	2015 ALS Costs	ALS Responses	ALS Transports	Cost per response	Cost per transport	Annual Unit Hours	Cost per UH	Cost per Capita
VIFR 1	\$2,063,247	506	150	\$4,078	\$13,755	8,760	\$236	\$192
SFD 3	\$6,801,262	4,394	2,241	\$1,548	\$3,035	26,280	\$259	\$85
RFD 3	\$6,349,125	3,723	1,019	\$1,705	\$6,231	26,280	\$242	\$27
BFD 4	\$8,604,502	5,382	2,171	\$1,599	\$3,963	35,040	\$246	\$27
SFD 7	\$16,812,533	19,897	6,484	\$845	\$2,593	61,320	\$274	\$27
KCM1 8	\$17,472,315	17,214	4,185	\$1,015	\$4,175	70,080	\$249	\$25

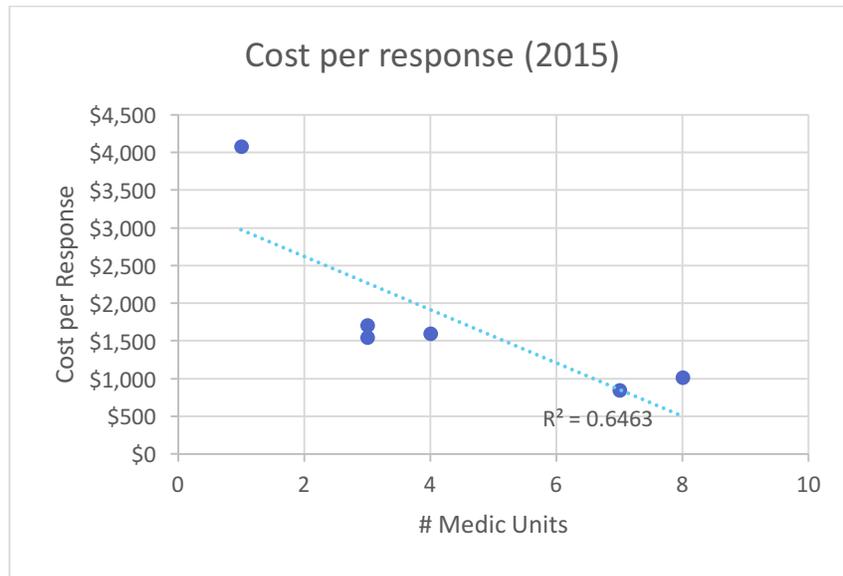
**Exhibit 19: Economy of scale comparison data**

*Exhibit 19 VIFR 1=Vashon Island Fire & Rescue, SFD 3 = Shoreline Fire Department, RFD 3 = Redmond Fire Department, BFD 4 = Bellevue Fire Department, SFD 7 = Seattle Fire Department, KCM1 8 = King County Medic One.*

A large factor in calculating the cost per unit hour is the cost data itself and how the ALS agencies determine their costs. Because the ALS agency funding allocation is fixed and reimbursement-based, all ALS agencies receive the same allocation, except for KCM1 which receives complete cost recovery rather than an allocation. KCM1 has the lowest per capita cost, while Vashon has the highest due to the economies of scale of 8 units versus one.

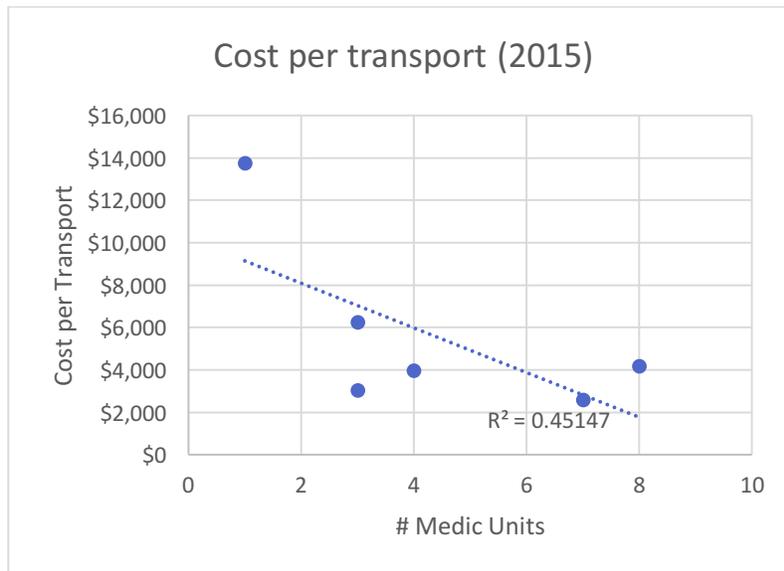
Exhibits 18-22 demonstrate the relationship that the number of ALS medic units has on the costs of operating the system when looking at a number of factors.

*[Continued on the next page]*



**Exhibit 20: 2015 Cost per response by number of ALS medic units**

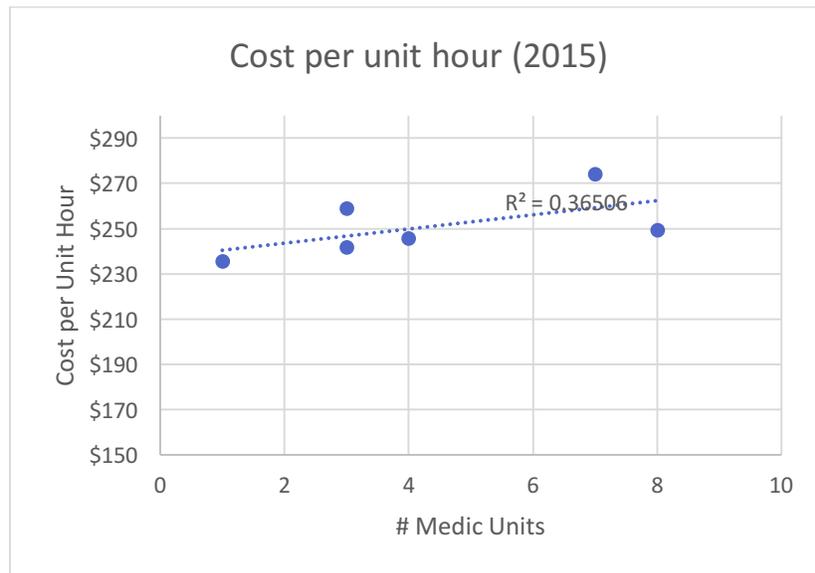
Exhibit 20: 2015 Cost per response by number of ALS medic units shows the decreasing cost per response by increasing the number of ALS medic units.



**Exhibit 21: 2015 Cost per transport by number of ALS medic units**

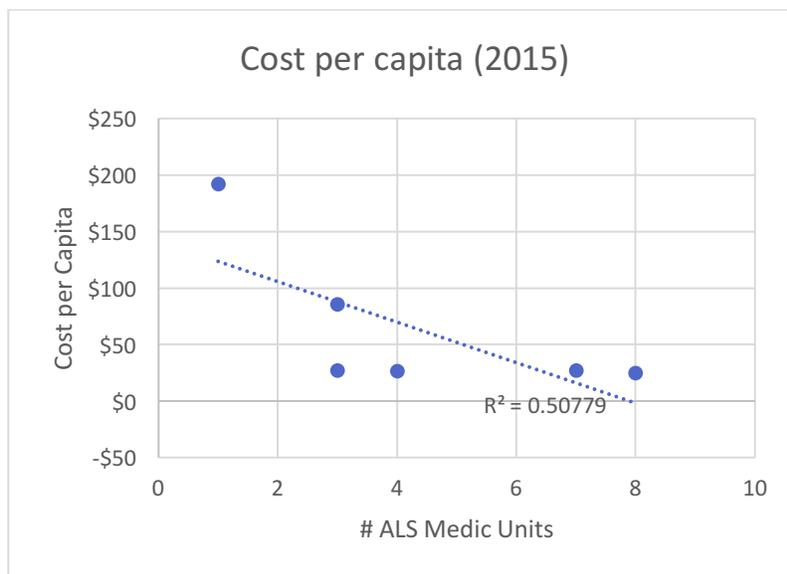
Exhibit 21: 2015 Cost per transport by number of ALS medic units shows the decreasing cost per transport by number of ALS medic units.

*[Continued on the next page]*



**Exhibit 22: 2015 Cost per unit hour by number of ALS medic units**

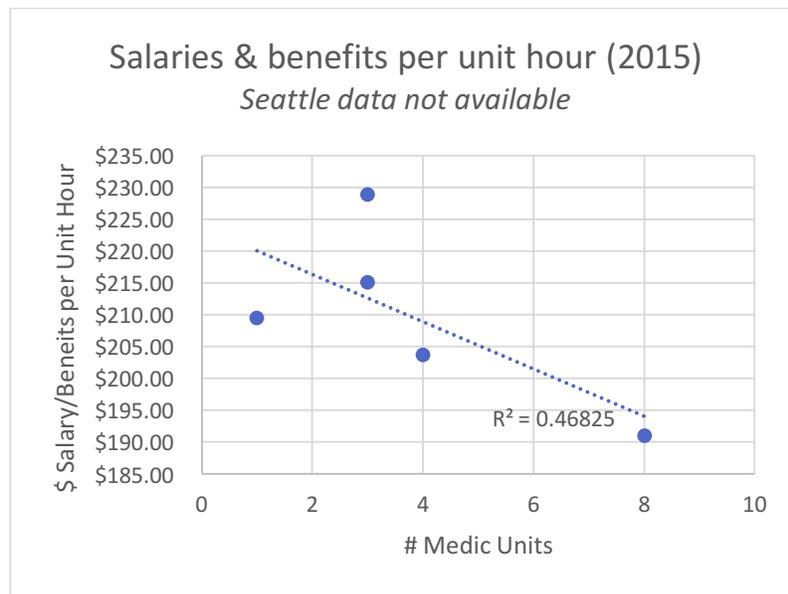
Exhibit 22: 2015 Cost per unit hour by number of ALS medic units shows the slightly increasing cost per unit hour for additional ALS medic units.



**Exhibit 23: 2015 Cost per capita by number of ALS medic units**

Exhibit 23: 2015 Cost per capita by number of ALS medic units shows the decreasing cost per capita by increasing the number of ALS medic units per ALS agency.

*[Continued on the next page]*



**Exhibit 24: 2015 Cost of salaries & benefits per unit hour by number of medic units (not including Seattle Fire Department)**

Exhibit 24: 2015 Cost of salaries & benefits per unit hour by number of medic units (not including Seattle Fire Department) shows the decreasing costs for salaries and benefits for additional ALS medic units.

These findings are consistent with key informant perceptions, most of whom thought single unit ALS agencies as both economically and operationally inefficient. Vashon Island Fire and Rescue was frequently brought up to illustrate this point. Like several rural areas of King County, Vashon procured an ALS medic unit based on response time needs, rather than call volume. According to respondents, however, high costs and staffing difficulties have proved insurmountable obstacles for continued program feasibility. Vashon is in the process of transferring ALS medic units to another ALS agency. The optimal ALS medic unit volume suggested by informants often matched the current number in their own jurisdiction. Several cautioned, however, that too many ALS medic units could weaken interpersonal bonds between BLS and ALS practitioners, which are seen as important in providing congruent care.

In reviewing operations, we considered ALS medic unit productivity compared to number of responses, number of transports, population density, and the number of ALS medic units. We learned that:

- 1) Although KCEMS is medically homogenous, its operations and costs vary by agency. There is variation between the ALS agencies and ALS medic units that comprise KCEMS. The ALS agencies have the latitude and exercise discretion to design the agency according to their internal needs. This variation may erode efficiencies.

2) Response rate describes busy-ness.

The number of responses a single ALS medic unit or single ALS agency experiences is the sole factor used to determine how busy that unit or agency is. Oversight to more accurately compare responses between agencies by adding filters for other related productivity measures would improve the measure.

3) The fewer the number of responses, the more likely the ALS medic unit is to transport. The higher the number of responses, the less likely the ALS medic unit is to transport.

It was not within our scope to determine why these phenomena exist. They deserve further study.

4) The denser the population of an area, the busier the ALS medic units.

Population density increases response requests. Various temporal, environmental, sociological and geographical affects are influenced by density.

5) The number of ALS medic units is not correlated to the number of responses.

The service area for each ALS medic unit was established based on factors which were significant at the time. The changing factors of population density, traffic volume, and frequency of events drawing people to such an area during specific days or times may have changed.

6) A denser population does not result in a greater number of ALS medic units.

The system does not deploy ALS medic units based on the population density.

The two most significant independent factors of economic efficiency of the KCEMS system are 1) the salaries and benefits costs and 2) the administrative and operational support necessary for each ALS agency to maintain. Reducing the number of ALS agencies while increasing the number of ALS medic units operated by each agency (total number of medic units remaining unchanged), will reduce redundant administration and operational support and will lead to the most effective means of increasing the economic efficiency of KCEMS.

#### Key Findings

- KCEMS system costs are greatly reduced by having fewer ALS agencies operating more units per ALS agency.
- Salaries and Benefits comprise the largest portion of the cost of the KCEMS system. Although controlled by labor agreements, there is significant variability between ALS agencies.

## KING COUNTY STAKEHOLDER PERSPECTIVES

This section briefly outlines interview findings on the two primary research questions regarding: the optimal number of ALS agencies and units and a process for responding to changes in ALS configuration. Where appropriate, qualitative findings have also been provided throughout this report to further illustrate key points and provide context for the quantitative analysis.

### OPTIMAL NUMBER OF AGENCIES

Overall, stakeholders expressed satisfaction with the existing number of ALS agencies in the county. This view was particularly strong among current ALS agencies. Responses among contract agencies included caveats about wanting more ownership in the system, such as local jurisdiction branding on medic units and decision-making about resource allocation (e.g., BLS training).

Though satisfaction with the current ALS agency configuration was high, representatives from both ALS agencies and contract organizations acknowledged that a reduction in agencies was most often mentioned with regard to Zone 1, where it was suggested that an estimated 40% increase in efficiency could be achieved through consolidation. Decreasing redundancies in management (e.g., Medical Service Officer (MSO), Medical Service Administrator (MSA), chiefs) and administrative overhead were repeatedly mentioned as ways to produce savings.

Respondents suggested that ALS agency consolidation also offered benefits beyond economics, such as:

- More seamless service integration through a reduction of jurisdictional boundaries.
- Reduced barriers experienced by new paramedics from contract jurisdictions who currently lose their seniority and home department when required to become ALS agency employees.
- Increased range of environments through which paramedics could rotate with ALS personnel from rural jurisdictions gaining skills practice in busier urban areas, while rural settings offer recuperation time for others.
- More informal training and quality assurance opportunities provided by paramedics to contract department BLS staff, something that is more readily available to ALS agency EMTs.

Those suggesting consolidation were quick to point out, however, that merging ALS medic unit service areas would be extremely difficult. Politically, agencies were well established and invested in the current service configuration. Some fire-based agencies expressed that dual role paramedics provide benefits to the fire department in addition to their role as a paramedic.

Organizationally, different operational systems and labor representation would make integration challenging (e.g., departments on different work schedules). Several respondents warned that decreasing the number of ALS agencies could impede innovation as smaller departments were seen as more agile and responsive to change, as well as better able to tailor services around community needs. Overall, the challenges of service consolidation seemed

formidable to many. In fact, several respondents quipped that despite advantages, they don't see mergers happening in their lifetime.

#### OPTIMAL NUMBER OF ALS UNITS PER AGENCY

Most respondents were satisfied with current numbers of ALS medic units. Adequate response time was typically cited to support these views. Respondents reported that multiple ALS medic units (at least 3 to 6) allowed for adequate backfill of staff to cover absences related to vacation, training, and injury.

Still, key informants in all zones expressed divergent opinions about exceptions to acceptable ALS medic unit numbers. Most notably, Zone 5 (Seattle) reported potential benefit of a third ALS medic unit to service the downtown area. Seattle reportedly reaches Status 0, with no ALS medic units available, on a bi-weekly basis. This situation draws in the city's north and south ALS medic units, leaving outlying areas with slower service. Rural jurisdictions in Zone 1 and 3 also reported challenges of long response time.

The needs of rural communities highlighted concerns regarding system equity. KCEMS applies an urban, rapid response EMS model to the county's outlying regions. However, response times in those isolated areas tended to be longer and receive less EMS backup compared to urban centers. Respondents shared stories of BLS staff choosing to transport to the hospital over requesting ALS support because of delayed wait times and because paramedics, when arriving first on scene, needed to wait for BLS before the ALS medic unit could go back in service.

#### REGIONAL PROCESS FOR RESPONDING TO CHANGES IN THE ALS CONFIGURATION

While not all stakeholders directly addressed the question of a change process during the interview, many expressed satisfaction with the current EMS Division role in overseeing ALS service levels and looked to the EMS Division as the lead agency in facilitating a change process moving forward. With regard to criteria for change, the use of county EMS data (e.g., call volume, response time, heat maps) provided by the EMS Division was highly valued. Respondents agreed that change should be based on science and system needs. Several stakeholders asserted, however, that statistics alone should not constitute the only evaluation criteria for system change. A jurisdiction's motivation for staffing an ALS medic unit, their knowledge and availability of required resources and oversight, and the jurisdiction's potential for success were additional factors offered for consideration.

How the change process should be structured was less articulated among respondents. One suggestion was to employ a similar process as was currently used for the King County EMS levy. The levy process invites input from ALS stakeholders and utilizes working groups. Opinions as to who should be at the table were split between current ALS agencies only or all interested stakeholders, with answers typically reflecting the stakeholder's particular affiliation. Several respondents favored including elected officials, as done with levy proceedings, to help build

consensus, elevate discussion beyond EMS operations, and move the change process forward. Employing a facilitator was also mentioned. Transparency was seen as an important element of any change process.

#### OPPORTUNITIES AND CHALLENGES FOR CHANGE

Organizational change is a complex process requiring attention to the multiple factors of culture, politics, and the environment to ensure success. Stakeholders raised several important considerations in regard to pursuing change.

#### KCEMS CULTURE, LOYALTY, & PRIDE

Respondents in the various stakeholder groups hold the KCEMS system in high regard. Many cited excellent performance outcomes, especially cardiac survival rates, and its international reputation. KCEMS' success was attributed to a variety of factors including strong EMS leadership, a common paramedic training platform, and tiered system of care. Allegiance to the KCEMS system was particularly strong among ALS agency personnel, many of whom 'grew up' in the system and expressed deep loyalty and pride. Many respondents expressed the sentiment that "commitment to Medic One as a system is without reproach".

System loyalty presents both challenges and opportunities for system change. Impassioned loyalties can foster resistance, as evidenced by the number of respondent comments about the system working and not needing to be fixed. Also organizational success can breed isolationism and elitism, closing minds to ideas about how the system could be improved. Similarly, we heard stories about past evaluations that, despite good evidence, failed to produce change. Recently, a regional fire authority study in the north end produced recommendations that were never implemented because elected official couldn't decide on funding. South King County also was involved in a study earlier that failed to produce results. The consultant at that time was reported as saying that while the study questions were answered, the real issues were not.

Challenges also offer opportunities. KCEMS stakeholders have considerable investment in the EMS system and ensuring its ongoing excellence. Stakeholders also uphold the KCEMS mission of serving the public as "what we're all about". When managed well, these commitments can be mobilized in building continued system success.

#### BALANCING DATA AND POLITICS

As noted previously, stakeholders value a change process guided by data. The EMS Division has an established reputation for providing quality data to monitor system performance and anticipate upcoming needs. Having a well-respected data monitoring system in place provides the analytic foundation necessary for a well-orchestrated change process.

Data alone do not transform systems, however, people do. The politics associated with system change within KCEMS have been described as highly charged. "Elephants in the room", "political football" and "holy grails" capture some of the sentiments describing the current

political climate. Attending to the various stakeholder perspectives will be essential to successfully moving any change process forward. Respondents looked for assistance from people outside the EMS system, including elected officials and facilitators, to help moderate a multi-stakeholder process.

#### LEVY

The King County EMS levy was one of the most commonly raised topics during interviews. Such attention is understandable given the levy's role as the primary funding source for ALS agencies within the county. Every six years, voters in King County are asked to fund the Medic One system with the levy. However, prior to it even going to the people for a vote, each city council of a city with a population of 50,000 or greater must approve it prior to any vote by the King County Council approving it to be placed on the ballot.

As the region has grown, new cities have gained populations large enough to participate in levy deliberations and their presence has shifted the balance of power in decision-making. For newcomers, this shift represents an opportunity to address particular needs of their communities. For longtime participants (e.g., Seattle, Bellevue, Redmond, Shoreline), the change poses a threat not only to the status quo, but to the levy itself, as was demonstrated by a near derailment during the last levy cycle when one city withheld its approval for the levy until late in the process.

#### Key Findings

- KCEMS stakeholders are satisfied with the processes and trust the capabilities of the EMS Division staff to facilitate and manage the system as a regional, integrated, and tiered system.
- There are numerous benefits to agency consolidation in addition to the cost savings. Although difficult to quantify, they are felt to be important by most stakeholders.
- There was not unanimous consent as to the ideal number of medic units as long as it was greater than one.
- The ultimate decisions will need to be based on a multitude of factors and balanced with the needs of the entire system.

## ANSWERING THE QUESTIONS

### #1 IDEAL NUMBER OR RANGE OF ALS AGENCIES TO MEET THE REGION'S CURRENT AND FUTURE NEEDS

To determine the number of units needed to adequately serve the public need and demand for service requires a complex analysis of incident level of service, location of existing stations, geography and the ability to reach these priority incidents within a specific response time standard.

To consider the demand for and the capability of the ALS agencies to meet it, we considered the questions: 1) what are the performance requirements by which the need can be measured? And 2) are there enough agencies to meet those needs?

ALS agencies are meeting and in some cases exceeding their response time requirements throughout the county. By meeting the demands of the system, these ALS agencies are demonstrating an adequate number of ALS medic units and personnel are in place today.

Across the region, the ALS medic units are arriving on average in 8 minutes. When the incident processing and chute times are included this total response time averages 10 minutes and also meets the performance standards set by the EMS Division. From this we conclude the current system has enough ALS agencies and ALS medic units within each agency to meet the medical needs of the county.

We also found the current ALS agency configuration with multiple, decentralized agency operations makes responding to changes in the configuration a slow and expensive process. A configuration change is currently necessary as Vashon Island Fire & Rescue has asked to relinquish its ALS medic unit.

We also conducted interviews with an array of stakeholders including ALS providers, fire districts chiefs, medical directors, dispatch personnel, and elected officials. These individuals provided first-hand knowledge and insights about agency and unit configurations. Key informants were nearly unanimous in saying that “the fewer providers the better” for greater economy of scale, but also generally said the ideal number of units per agency is the same number that their agency already has.

What this does not consider is the economic impact. Considering the number of ALS medic units operated by an ALS agency, there are significant economic advantages to a single ALS agency. There are demonstrable economies of scale from a single ALS agency operating all of the ALS medic units in the county. In the future, should there continue to be more than one ALS agency operating ALS medic units, it is clear that more ALS medic units are more advantageous than fewer ALS medic units and that it is untenable to only operate a single ALS medic unit. It may be unrealistic for any ALS agency to operate fewer than three ALS medic units in order to

maintain the capacity to absorb and respond to logistical, staffing, equipment, and system demand issues.

From an efficiency and financial perspective, the optimal number of ALS providers countywide is one. However, that change is not likely to be politically feasible in the near future. Fewer agencies benefit from greater economies of scale. Standardization, reduction of duplication, and portability of paramedics from one agency or area to another can improve the operations, finances and performance of the system as a whole. Rather than reducing the total number of agencies, partners may want to consider an intermediate approach based on these principles that achieve those benefits and may be acceptable in the short term, such as a move towards consolidating agencies operating in Zone 1.

The answer: One ALS agency should operate the entire ALS system in King County, maintaining the current number of ALS medic units.

## #2 A PROCESS FOR PROVIDING REGIONALIZED ALS AND MODELS FOR THE FUTURE

Stakeholders also provided advice during interviews about developing a regional process that can be used in the event changes in the ALS agency configuration are required in the future. Most informants trust the EMS Division to facilitate such a process. Stakeholders viewed both quantitative (e.g., call volume, response time) and qualitative (e.g., geography, a jurisdiction's motivation, knowledge and availability of required resources and oversight if interested in providing an ALS unit) data as valuable in informing the change process and both should continue to be used in the future.

Several stakeholders noted the usefulness of elected officials as part of proceedings to build consensus, elevate the discussion beyond EMS operations, and to move the process forward. A process similar to that employed for levy deliberations was offered as a possible structure.

Future plans are built on forecasts that are greatly impacted by industry, the economy, housing prices, and migration patterns. The EMS Division's levy planning cycle needs to consider scenarios far into the future that are not known today and may not be predictable. The same is true for designing the system, including ALS medic unit placement, paramedic supply management in the context of retirements, and changes in educational technologies that could enhance the substantial training provided in the county to paramedics, EMTs, dispatchers, and others.

### PROCESS RECOMMENDATIONS

We recommend the EMS Division continue to periodically and proactively review the system's medic units and capacity. Evaluation and realignment should be conducted as situations arise, such as any time a provider relinquishes oversight or a need for system realignment is identified by the EMS Division (e.g., failure to meet key performance measures, agency withdrawal, significant changes in incident volumes by zone, or by other factors).

Elements of evaluations should include but not be limited to:

- A clear determination of community need
- A consensus process
- Clear selection criteria for stakeholder inclusion in the consensus process
- Impartial facilitation; and,
- Expert consultation to identify barriers/facilitators for success

A Central Region EMS and Trauma Council policy adopted in 2012 requires requests for geographic expansion or contraction of ALS or BLS service and requests for new ALS or BLS service within King County be subject to the approval of the King County Medical Program Director (MPD) and must be authorized by the Central Region EMS & Trauma Care Council. The MPD and the Central Region Council should be fully informed through access to the business case.

Prior to initiating any formal changes to support a new ALS agency in taking over an existing ALS medic unit or coverage area, we strongly suggest the leadership of that agency communicate with and attempt to develop a proposal jointly with the existing provider. This will avoid the perception that a “hostile takeover” is being made and will allow the affected organizations to collaborate on a viable proposal for the EMS Division to consider.

Proposals for an agency to take over ALS geography from another ALS agency, or to become a new provider must include a business case. The business case must include a detailed description of the meetings and attempted resolution of issues with existing provider(s) and why they were not successful. It must also contain the costs for each levy cycle that include the balancing factors such as how it will impact adjoining agencies negatively, or positively. The agency must discuss what their value added proposition is and what any existing ALS agency would relinquish. The proposals should focus on how the change or addition makes the system better or fixes an existing problem.

If an entity submits a request for consideration as a new ALS provider, then balancing the metrics of the need and the impact on the existing providers should be heavily considered. An approach that mimics the Washington State Department of Health Certificate of Need (CON) process identified in Chapter 246-310 WAC should be used. Specifically, the determination of need described in WAC 246-310-210 can be adapted for KCEMS needs with little difficulty and it already incorporates the concepts of social justice and equity. Specifically, the hospital bed need methodology should be consulted for appropriateness of definitions and process modeling. The specifics could be determined jointly through an existing or a new EMS advisory committee to the EMS Division.

If an agency wants to withdraw then a pre-determined process must be activated to determine if the operation of the medic unit goes up for bid or the bordering agency is forced to take it

over, with clearly defined parameters of the minimum number of units that that should be under an agency's purview.

Future plans are built on forecasts that are greatly impacted by industry, the economy, housing prices, and migration patterns. The EMS Division's levy planning cycle needs to consider scenarios far into the future that are not known today and may not be predictable. The same is true for redesigning the system, including medic unit placement, paramedic supply management in the context of retirements, and changes in educational technologies that could enhance the substantial training provided by the EMS Division to paramedics, EMTs, dispatchers, and others.

The ultimate decision in creating EMS system change will need to be made by the system stakeholders that have ownership in the outcomes: leaders and decision makers from throughout the region, the EMS Division, its many EMS partners, and the public. Many issues do not have easy or quick solutions and may require further analysis and consultation.

*[Continued on the next page]*

## THE PARAMEDIC FOUNDATION

The Paramedic Foundation (TPF) is a Minnesota non-profit corporation and is tax-exempt under section 501(c)3 of the Internal Revenue Code as an IRS designated 170(b)(1)(A)(vi) public charity. It has no employees but is overseen by five volunteer directors. A Board of Advisors comprised of 14 professionals from across the country are also able to be contractually engaged as needed for specific projects. TPF headquarters are located in St Cloud, Minnesota, with an office and office staffing donated by a large non-profit Minnesota and Wisconsin based paramedic service.

TPF has formed the project team and assignments based on the requirements of this project. The project was led by Nikiah “Nick” Nudell, MS, NRP a paramedic and the Chief Data Officer for TPF.

TPF and its subsidiary (PrioriHealth Partners, LLC) have a long history of performing statewide EMS, critical access hospital and rural EMS evaluations and consultations for dozens of EMS systems across North and South America, Australia, and the Near-East. TPF also completed an ambulance rate rebasing analysis for the North Dakota Medicaid agency which resulted in the Governor including enhanced reimbursement in his budget the following year. TPF is the only EMS consulting firm that has ever completed a Medicaid ambulance rate rebasing study in any state.

TPF specializes in evaluating integrated medical communities and are unsurpassed in our experience working with communities that rely on levies for program support. We know that each program, community, and system require unique and thoughtful considerations that do not favor cookie-cutter solutions for obtaining superior medically oriented, patient centered, outcomes. In this manner, TPF’s sub-contractors are all seasoned EMS professionals averaging over 30 years’ experience in EMS.

Nick Nudell, MS, NRP grew up in King County and was first trained in CPR by Shoreline Fire Department in the 1980s. He recently completed a US Secretary of Transportation appointment to the National EMS Advisory Committee, where he served on the Affordable Care Act sub-committee. He has over 16 years’ experience as a paramedic, data analyst, project manager and nationally-recognized quality improvement expert with over 20 years of experience using quantitative data. In his doctoral studies he is developing deep learning algorithms to support mobile public services (police, fire, and EMS) in quality improvement and service delivery. Mr. Nudell has worked professionally with hundreds of local and state EMS agencies and the National Highway Traffic Safety Administration to analyze the data generated from out-of-hospital clinical encounters and has served as a subject matter expert on data collection, analysis, reporting, and use for many private and public organizations. He is the Project Manager for the EMS Compass Initiative, a US Department of Transportation cooperative agreement that he was the chief architect of, to design an evidence-based process for developing national EMS performance measures.

Davis G. Patterson, PhD, is a sociologist with more than two decades' experience conducting quantitative and qualitative research in health and human services, with a focus on informing policy on improving patient access to healthcare. He is the Deputy Director of the WWAMI Rural Health Research Center, co-investigator in the Center for Health Workforce Studies, and a research assistant professor at the University of Washington, Seattle. Dr. Patterson has conducted numerous studies of prehospital EMS, including the rural component of the NHTSA-funded *EMS Workforce for the 21<sup>st</sup> Century: A National Assessment*, a CDC-funded study of EMS cardiac and stroke capabilities and practices, a HRSA-funded study of prehospital EMS personnel in rural areas, and a NHTSA-funded study, *Quality Review of Emergency Medical Service Performance Measure Data*.

Fred Morrison is recently retired as the CEO of Eagle County Paramedic Services (ECPS) located in Edwards, Colorado. After moving to Eagle County in 1986, he worked in the fire service and rose through the ranks at ECPS to become CEO in 2006. Mr. Morrison has a BS in Business Administration from Colorado State University with concentrations in both finance and management; paramedic training from Swedish Medical Center (Denver); and a certificate in Ambulance Service Management from the American Ambulance Association. Appointed by the Colorado Governor to the State Emergency Medical and Trauma Advisory Council, he is currently serving as Chair.

Paul Anderson, MS, NRP has invested his entire career in EMS, providing direct patient care and filling leadership roles. As a Chief Operating Officer he provided vision and direction for a paramedic service responding to 82,000 calls per year in multiple states. He worked extensively with governmental entities with a focus on developing and sustaining initiatives which strengthen paramedic services. He has been involved in a variety of projects with The Paramedic Foundation.

David Shrader has more than 40 years of experience in medical transportation services, including extensive executive management and various clinical, teaching, supervisory and management roles for private, public and voluntary ground and air agencies. He began his career as an EMT and subsequently filled roles as Paramedic Training Officer, Flight Medic, SWAT Medic (and law enforcement officer), Technical Rescue leader, Operations Manager, Director in a public service and then COO and CEO at various private companies. While working as the COO of a large medical transportation company, his responsibilities included operations in Seattle, Tacoma and Spokane. David also served as a firefighter and Deputy Chief of his local Fire Department.

Robert McNally, MS brings 20 years of public safety experience as a firefighter/paramedic, manager, and trainer. He has been recognized twice for his service to the community. He graduated magna cum laude with Bachelor's Degree in Public Administration and has a Master's degree in Urban and Regional Planning from the University of North Carolina at Charlotte. His focus was to apply Geographic Information Science (GIS) technology to public

safety and homeland security issues. Robert also worked as a research associate for a homeland security project grant funded by the Defense Intelligence Agency and the Special Warfare branch of the US Navy while attending the University. His thesis on critical infrastructure protection planning was recognized as exemplary research by a statewide geographic association.

Andrea Corage Baden, PhD, MPH is a medical sociologist specializing in qualitative methodologies, including individual and group interviews. Andrea has had a long career in the health field, first as a provider, including a Seattle EMT, and then as a researcher focusing on health disparities and equity. Currently Andrea works as a research consultant in the Center for Health Workforce Studies at the University of Washington.

