

**2010 EMERGENCY  
MEDICAL SERVICES LEVY  
FINANCIAL & COMPLIANCE AUDIT**



**King County**

Presented to  
the Metropolitan King County Council  
Government Accountability and Oversight Committee  
by the  
County Auditor's Office

Cheryle A. Broom, King County Auditor  
Ron Perry, Deputy County Auditor  
Susan Baugh, Senior Principal Management Auditor  
Brian Estes, Senior Principal Management Auditor

Report No. 2011-04  
September 7, 2011



### ***Auditor's Office Mission***

*Through objective and independent audits and services, we promote and improve performance, accountability, and transparency in King County government.*

### ***Auditor's Office Vision***

*Our work is of the highest quality and integrity resulting in significant improvements in accountability, performance, and efficiency in county government, and it promotes public trust.*



The King County Auditor's Office was created in 1969 by the King County Home Rule Charter as an independent agency within the legislative branch of county government. Under the provisions of the charter, the County Auditor is appointed by the Metropolitan King County Council. The King County Code contains policies and administrative rules for the Auditor's Office.

The King County Auditor's Office provides oversight of county government

through independent audits and other studies regarding the performance and efficiency of agencies and programs, compliance with mandates, and integrity of financial management systems. The office reports the results of each audit or study to the Metropolitan King County Council.

The King County Auditor's Office performs its work in accordance with applicable Government Auditing Standards.



Audit and study reports are available on our Web site ([www.kingcounty.gov/operations/auditor.aspx](http://www.kingcounty.gov/operations/auditor.aspx)) in two formats: entire reports in PDF format (1999 to present) and report summaries (1992 to present). Request copies by mail at 516 Third Avenue, Rm. W-1033, Seattle, WA 98104, by phone at 206-296-1655, or by email: [KCAO@kingcounty.gov](mailto:KCAO@kingcounty.gov).

### **Alternative Formats Available Upon Request**



# King County

**Metropolitan King County Council**

**King County Auditor's Office**

**Cheryle A. Broom**, *King County Auditor*

King County Courthouse

516 Third Avenue, Room W1033

Seattle, WA 98104-3272

**206.296.1655** Fax 206.296.0159

**Email:** KCAO.kingcounty.gov

TTY 296-1024

www.kingcounty.gov/auditor

## MEMORANDUM

DATE: September 7, 2011

TO: Metropolitan King County Councilmembers

FROM: Cheryle A. Broom, <sup>CB</sup> County Auditor

SUBJECT: 2010 Emergency Medical Services (EMS) Levy Financial and Compliance Audit

The attached 2010 EMS Levy Financial and Compliance Audit responds to Ordinance 15862 requesting an annual audit of the EMS Levy. The audit reviews EMS Levy fund's annual revenues, expenditures, and use of designated reserves that are identified in the council-adopted 2010 EMS Levy financial plan.

The audit also assesses the cost of EMS dispatch services provided primarily by two independently operated dispatch agencies, and determines whether the 2010 dispatch fee schedules are based on an acceptable methodology. In addition, the audit confirms whether the annual dispatch cost increases can be funded by the EMS Levy for the duration of the six-year cycle.

Based on the results of the financial and compliance audit, we concluded that:

1. The EMS Division managed the 2010 Levy resources and financial activities in accordance with the 2010 council-adopted EMS Levy financial plan and policies. The 2010 EMS Levy ending fund balance was \$12.6 million higher than the adopted budget and well above required minimum ending fund balance. However, the millage reduction reserve was reduced by \$4.6 million for existing and new designated reserves, including the new dispatch and communications reserve.
2. The dispatch fee schedules established by independent agencies were based on an acceptable methodology and reasonably reflected the dispatch agencies' respective operating costs. However, the revised fee schedule for one dispatch agency resulted in significant dispatch cost increases beginning in 2009 and for the duration of the current levy cycle. The EMS Division established a designated reserve in the EMS Levy financial plan to ensure continued funding for EMS dispatch services through 2013.

### Opportunities for Improvement and Recommendations

The audit also identified opportunities to strengthen the accounting and transparency of the dispatch service costs. For example, the dispatch fee schedule for one dispatch agency could potentially be improved by establishing and monitoring dispatch productivity standards for EMS dispatch services. Such standards will ensure that processing times for call taking and

dispatching tasks are available and can be used to allocate costs more precisely among EMS/Fire and Police user agencies in developing future dispatch fee schedules. Due to the complexity of the dispatch fee schedule, documentation in support of ALS Providers' requests for reimbursement of dispatch costs could also be improved to verify that they are justified based on the actual volume and cost of ALS dispatch services provided.

The County Executive concurred with the audit findings and plans to implement the audit recommendations by September 2012.

The King County Auditor's Office sincerely appreciates the cooperation received from the management and staff of the Emergency Medical Services Division and Office of Performance, Strategy and Budget, and the professionalism of our independent consultant, Steve Miller of Miller & Miller, P.S., in completing the 2010 EMS audit.

CB:SB:jl

# TABLE OF CONTENTS

---

	<b><u>PAGE</u></b>	
Executive Summary	iii	
<b>Chapters</b>		
Chapter 1	Introduction	1
Chapter 2	2010 EMS Levy Financial Review	9
Chapter 3	2010 EMS Levy Dispatch Services	15
<b>Exhibits</b>		
Exhibit A	Summary of King County EMS Levy Funding by Program	2
Exhibit B	Financial Comparison of 2010 EMS Operations to Budget and Financial Plan	11
Exhibit C	Comparison of Year-End Fund Balances for Reserves and Designations to Adopted Financial Plan and Budget	13
Exhibit D	ALS Dispatch Fees Funded by EMS Levy, 2002 to 2010	18
Exhibit E	Comparison of 2010 Dispatch Service and Costs	22
Exhibit F	Comparison of Valley Com and NORCOM Expenses, Calls and Rates	23
Exhibit G	Peer Comparison of 2010 EMS Call Volumes and Cost Per Call	25
<b>Appendices</b>		
Appendix 1	2008-2013 Emergency Medical Services Levy Financial Plan	33
Appendix 2	2010 Emergency Medical Services Levy Financial Plan	35
	List of Recommendations & Implementation Schedule	37
	Executive Response	38

**Abbreviations**

ALS	Advanced Life Support
AMR	American Medical Response
BLS	Basic Life Support
CBD	Criteria Based Dispatch Guidelines
CPI	Consumer Price Index
CPR	Cardio-Pulmonary Resuscitation
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
EMTs	Emergency Medical Technicians
JEMS	Journal of Emergency Medical Services
KCM1	King County Medic One
NAED	National Academy of Emergency Dispatch
NORCOM	North East King County Regional Public Safety Communications
PPI	Producer Price Index
Valley Com	Valley Communications Center

# EXECUTIVE SUMMARY

---

## Introduction

King County's Medic One/Emergency Medical Services (EMS) system provides internationally recognized out-of-hospital patient care, including life-saving medical assistance, to the 1.9 million residents throughout the county. The EMS system is funded principally by a voter-approved, six-year EMS Levy. The 2008 to 2013 EMS Levy provides an average of approximately \$63 million annually for advanced life support (ALS), basic life support (BLS), regional services, and strategic initiatives.

This 2010 *Emergency Medical Services Financial and Compliance Audit* focuses on the third year of the EMS Division's implementation of the 2008 to 2013 EMS Levy. The primary purpose of the audit is to assess the EMS Division's financial practices and compliance with the Council-adopted 2010 EMS Levy policies and financial plan; review the costs of EMS dispatch services provided primarily by two independently operated dispatch agencies, and determine whether the increased dispatch costs can be funded by the EMS Levy for the duration of the six-year levy cycle. In addition, the audit includes a peer survey comparing the costs of dispatch services with King County EMS dispatch providers.

## General Conclusions

### **EMS Levy Managed in Compliance with Financial Plan and Policies**

The audit concludes that the EMS Division managed the EMS Levy resources and financial activities in 2010 in accordance with the EMS Levy financial plan and policies. The EMS Division also established a designated reserve in the EMS Levy financial plan to ensure continued funding for dispatch services through the duration of the levy cycle. Due to the complexity of the new dispatch fee schedule adopted by the one of the primary dispatch

service providers, however, the audit determined that EMS Division should develop and implement policies to strengthen the accounting and transparency of dispatch services.

**Summary of Findings and Recommendations**

**EMS Financial Review  
Findings and  
Recommendations**

EMS managed its financial operations in accordance with the EMS Levy financial plan and policies. Actual revenues exceeded the adopted budget by \$2.2 million and expenditures were less than the budget by \$1.9 million resulting in a \$4.1 million positive operating variance. EMS did not use a substantial amount of the \$7.6 million budgeted contingencies. The millage reduction reserve was reduced by \$4.6 million in accordance with the reserves established in the adopted budget. The EMS Levy ending undesignated fund balance was \$21.3 million, which was \$12.6 million more than the adopted 2010 budget and well above the six percent minimum ending fund balance required by the EMS Levy financial plan.

The EMS Division effectively responded to significant cost increases for EMS dispatch services resulting from new dispatch cost allocations policies. In addition to using Provider Balances carried forward from the 2002 to 2007 EMS Levy to cover \$250,000 in dispatch cost increases in 2010, the EMS Division established a \$870,000 designated dispatch and communications reserve in 2011 that can be accessed to cover the higher than planned dispatch expenses forecasted for the remainder of the levy period (2011 to 2013).

We also determined that the dispatch fee schedules established by both North East King County Regional Public Safety Communications (NORCOM) and Valley Communications Center (Valley Com) were based on acceptable accounting practices. However, the allocation of costs based on a 50-50 percent split of



the NORCOM expenses to EMS/fire agencies and police agencies may result in a benefit to police agencies that use NORCOM for dispatch services. This allocation method was originally adopted by NORCOM's principal user agencies in Appendix A, User Fee Formulas, to the Interlocal Agreement establishing NORCOM to reflect higher staffing costs for EMS/Fire dispatch services. Appendix A of the Interlocal Agreement is also cited in the Notes Section, Revenue Rate Calculation, of NORCOM's 2010 budget adopted by its Governing Board. The 2010 budget includes one more dispatcher for EMS/Fire agencies than the two dispatchers for police agencies.

The EMS Division did not have detailed information on-site from ALS Providers to support the reimbursement requests for dispatch services. Documentation of EMS dispatch services and costs was later provided to EMS and audit staff by ALS Providers and dispatch agencies for audit purposes. Invoices from the dispatch agencies did not separate costs between ALS and other services. Therefore, we were unable to verify what types and levels of dispatch services were provided by the two dispatch agencies to the ALS Providers based on the invoices. We were therefore unable to confirm that the actual amounts billed to the ALS Providers and reimbursed by the EMS Division were consistent with the dispatch services received by the ALS Providers.

**The audit recommends** that the EMS Division ask the ALS Providers to obtain additional documentation directly from the dispatch agencies that identifies both annual capital and operating dispatch costs. The EMS Division should also ask the ALS Providers to submit itemized invoices to clearly show expenses that are solely attributable to ALS to ensure billing data and services received are properly accounted for in their quarterly reimbursement requests. The EMS Division should regularly review dispatch invoices received by ALS Providers to verify that

the actual amounts billed are consistent with the dispatch services received, and use this information as part of any dispatch reserve analysis.

**Summary of Executive Response**

The County Executive concurred with the audit findings and recommendations, and implementation of the audit recommendations is planned for September 2012.

**Acknowledgements**

The King County Auditor's Office sincerely appreciates the assistance received by the Emergency Medical Services Division, the Advance Life Support (ALS) Providers, the North East King County Regional Public Safety Communications (NORCOM), and Valley Communications Center (Valley Com) during the audit process. The Auditor's Office appreciates the professional services provided by Miller & Miller, P.S., in conducting the independent 2010 EMS Levy financial review, including the financial review of dispatch services.

# 1 INTRODUCTION

---

## EMS Levy Audit Mandates

### **King County Council Mandates**

King Council Ordinance 15862, which adopted the EMS Levy financial policies in 2007, requires the King County Auditor's Office to conduct an annual audit of the 2008 to 2013 EMS Levy. Council Motion 13440 adopting the 2011 Auditor's Office Work Program also mandates the 2010 EMS Levy Audit. The primary purpose of this audit is to review the EMS Division's financial practices and compliance with the Council-adopted 2010 EMS Levy policies and financial plan. In addition, the audit assesses the costs of EMS dispatch services provided primarily by two independently operated dispatch agencies, and determines whether the dispatch fee schedules are based on an acceptable methodology. The audit also confirmed whether annual dispatch costs can be funded by the EMS Levy for the duration of the six-year levy cycle.

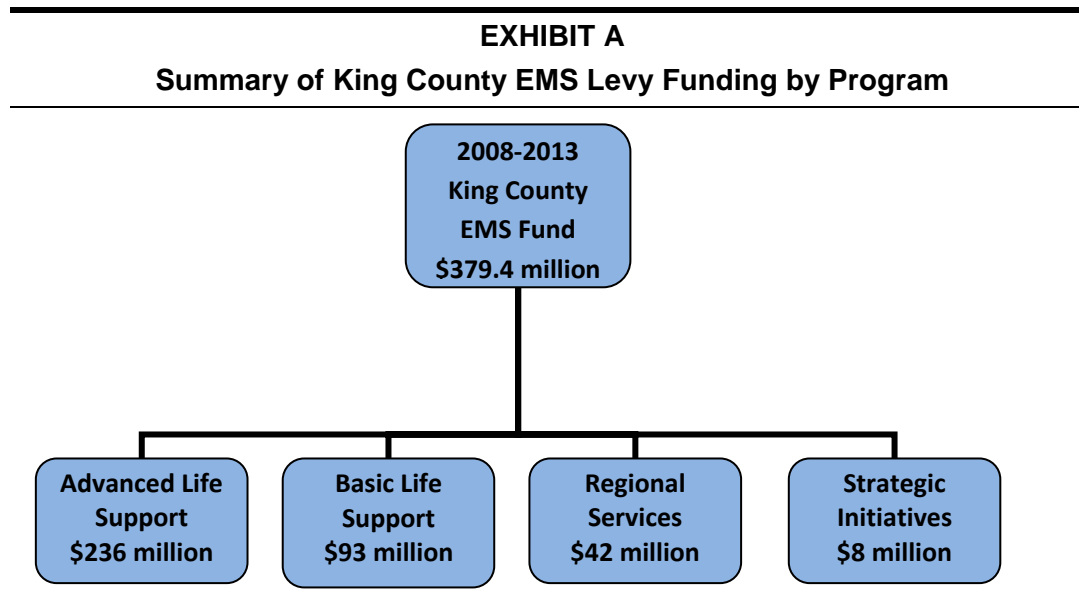
### **Background**

In 1979, the Washington State Legislature authorized the use of a regional EMS Levy to fund emergency medical services. Pursuant to the Revised Code of Washington (RCW) 84.52.050, King County passed six countywide levies from 1979 to 2007. The most recent six-year levy funds Medic One/EMS services from 2008 to 2013. Appendix 1 contains the EMS Levy Financial Plan attached to Ordinance 15861.

The Medic One EMS Levy is a countywide, voter-approved levy at a rate of \$0.30 per \$1,000 of assessed property value. The EMS Levy was based on planned expenditures of approximately \$622.2 million during the six-year period. Approximately \$207.6 million was allocated directly to the City of Seattle to finance Seattle Medic One, and \$379.4 million was allocated to King

County to finance four major Medic One/EMS programs shown in Exhibit A. The remaining \$35.2 million was designated in the King County EMS Levy Fund as reserves for Seattle (\$15.1 million) and King County (\$20.1 million).

Exhibit A summarizes the portion of the EMS Levy Fund that was planned to support the regional county EMS system and programs, exclusive of the City of Seattle system. Due to the economic downturn, both revenues and expenditures are forecast at \$21 million less than the original plan.



**SOURCE:** 2009 Update of the 2008-2013 Emergency Medical Services Strategic Plan.

The EMS Levy adopted by the King County Council and approved by the voters provided an average of approximately \$63 million annually for advanced life support, basic life support, regional services, and strategic initiatives. This is currently forecasted at \$60 million a year. The four programs are described in the EMS Strategic Plan as follows:

## Four Major EMS Programs

Advanced Life Support (ALS) Services: Funding ALS services is the priority of the Medic One/EMS Levy. ALS service is provided by six major paramedic providers who offer out-of-hospital emergency medical care for critical or life-threatening injuries and illnesses. ALS Providers respond to approximately 30 percent of all EMS requests for services. The EMS Levy fully funds ALS services, including full funding of ALS dispatch services, through the ALS unit allocation model.

Basic Life Support (BLS) Services: BLS services are only partially funded by the EMS Levy, and are provided by more than 4,000 Emergency Medical Technicians (EMTs) employed by 30 different fire agencies located throughout King County to help ensure standardized patient care and enhanced BLS services. Based on the volume of calls for BLS services and assessed property values, the EMS Levy provides an annual allocation to county fire agencies to help offset the costs of providing BLS services, including dispatch services.

Regional Support Services: Core regional Medic One/EMS programs and services support critical functions essential to providing out-of-hospital emergency care. These include uniform training of EMTs and EMS dispatchers, regional medical control, regional data collection and analysis, quality improvement activities, and regional finance and administrative management by the King County EMS Division.

Strategic Initiatives: Strategic initiatives are new programs designed to improve the quality of Medic One/EMS services and manage the growth and costs of the system. Successful strategic initiatives are generally incorporated into Regional Support Services as ongoing core programs.

In the original levy plan, approximately \$20.1 million of the EMS Levy revenues were allocated to contingencies and an additional \$8.5 million to reserves and designations managed by the EMS Division. Currently, there are \$3.7 million in contingencies and \$17.3 million in reserves and designations. Ordinance 15740 states that designated reserves program balances were added to “encourage cost efficiencies and allow for variances in expenditure patterns.” Appendix 2 contains a copy of the Council-adopted 2010 EMS financial plan identifying the designated reserves, including the newly established designated reserve for EMS dispatch and communication services.

### **EMS Dispatch Services**

Dispatch organizations serve as the traditional access point for King County emergency medical services and help ensure that the right resources are dispatched in response to an emergency medical incident. Professional dispatchers are trained to triage calls to determine the most appropriate level of care needed. Emergency Medical Dispatchers (EMDs) are also trained to provide pre-arrival instructions for most medical emergencies, and guide callers through life-saving steps, such as instructing in the use of Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillators (AED), stopping life-threatening bleeding, etc., until EMS personnel arrive. They also give EMS responders a clear and accurate picture of what to expect at the scene of emergency incidents.

Four agencies receive and dispatch calls for emergency medical services in King County outside the City of Seattle: North East King County Regional Public Safety Communications (NORCOM), Valley Communications Center (Valley Com), the Port of Seattle Police, and the Enumclaw Police Department. NORCOM and Valley Com serve as the primary EMS dispatch providers that

receive and dispatch responders to a large majority of the emergency medical calls in King County. Both dispatch agencies also dispatch calls for police and fire suppression services.

### **Audit Scope and Objectives**

The audit scope was to determine whether the EMS Division managed its financial operations in accordance with the 2010 EMS Levy financial plan and policies. In addition, we assessed the reasonableness and impacts of dispatch services operating and capital cost increases on the policy of full funding of ALS services and partial funding of BLS services, and on the EMS Levy financial plan for the remainder of the 2008 to 2013 levy period. The specific audit objectives were to:

1. Review the EMS Division practices in managing the EMS Levy revenues and expenditures, and in ensuring compliance with the 2010 EMS policies and financial plan. The review also addresses the EMS Division's use of restricted and designated EMS Levy funds set aside in various reserve and contingency accounts. The status of the millage reduction reserve balance at the end of 2010 is also assessed.
2. Review the dispatch fee schedules established by the independently owned and operated dispatch agencies to determine whether the schedule and amount of fees are reasonable and based on an acceptable methodology.
3. Determine the impact of the dispatch cost increases on the EMS Levy policy of full funding of ALS services and partial funding of BLS services, and on the EMS Levy financial plan for the duration of the six-year levy.
4. Conduct a peer survey of comparable EMS agencies to identify the cost of dispatch services.

The Auditor's Office engaged Miller & Miller, P.S. through a competitive solicitation process to conduct the 2010 financial review. Auditor's Office staff performed the dispatch analysis in conjunction with Miller & Miller, P.S. and the peer survey and analysis.

### **Methodology**

The financial review, conducted by Miller & Miller, P.S., included a comparison of the financial plan to actual results for the year ending December 31, 2010. It included a comparison of revenues, expenditures, and budget for all four EMS programs. A sample of 2010 transactions was drawn from the ALS Providers, BLS Providers, and the EMS Division. In addition, the budget, expenditures, fund balances, and cost escalation factors used to project costs and reserve requirements were reviewed in relation to the mandates contained in attachments to Ordinance 15861 that adopted the EMS 2008-2013 EMS Levy.

Audit staff obtained information on dispatch services from interviews with the EMS Division, NORCOM and Valley Com management and staff; and review of select contracts with other EMS providers to complete the analysis required to meet the audit objectives. EMS documentation reviewed and analyzed included the contracts with NORCOM and Valley Com for dispatch services, dispatch performance standards and requirements, financial data, and billing data. Supporting EMS, NORCOM and Valley Com budgets, financial reports, and annual reports were also reviewed.

Best EMS dispatch service practices were also researched and a peer agency survey was conducted that focused on cost trends and financing of dispatch services.



**Scope of Work on Internal Controls**

We assessed internal controls relevant to the audit objectives. We satisfied these objectives by performing comparative analysis, testing selected transactions, and obtaining support for revenue, expenditure, and reserve balance calculations. We also reviewed relevant ordinances, financial policies, plans and procedures related to and controlling the use of the EMS Levy funds.

[Blank Page]

# 2 2010 EMS LEVY FINANCIAL REVIEW

---

## Chapter Summary

This chapter focuses on the third year, 2010, of the EMS Division's implementation of the 2008 to 2013 EMS Levy financial plan. As mandated by County Ordinance 15862, the primary objective of the audit is to review the 2010 EMS Levy financial activities and compare the annual revenues, expenditures, and reserve and contingency balances to the amounts identified in the annual financial plan adopted by the King County Council. The financial analysis included testing a limited sample of transactions to verify that all funds were used for the purposes intended.

## **2010 EMS Funding and Financial Plan**

King County's regional EMS system is funded by a six-year levy. In 2010, the budgeted revenues were \$63,599,001 and budgeted expenditures were \$59,020,705, not including contingencies or reserves. The reserves include a millage reduction reserve used to track the unused ALS salary and wage contingency and other positive fund balances so that the Council may consider a potential millage reduction in the later years of the levy or to offset the rate needed for the next levy. A minimum EMS Levy End Fund Balance of six percent of annual revenues is required. (Appendix 2 contains a copy of the adopted 2010 EMS Levy financial plan.)

## Summary of Findings and Recommendations

## **EMS Managed 2010 Levy Funds in Compliance with Financial Plan**

Our results indicate that the EMS Division managed its financial activities in 2010 in accordance with the EMS Levy financial plan and policies. Actual revenues exceeded the adopted budget by \$2.2 million and expenditures were less than the budget by \$1.9 million resulting in a \$4.1 million positive operating variance. EMS did

not use a substantial amount of the \$7.6 million budgeted for contingencies. The millage reduction reserve was reduced by \$4.6 million in accordance with the reserves established in the adopted budget. The EMS Levy 2010 ending undesignated fund balance was \$21.3 million, which was \$12.6 million more than the adopted 2010 budget and well above the six percent minimum ending fund balance required by the EMS Levy financial plan. This funding level allows EMS to manage forecasted reductions in property tax revenues in the last three years (2011-2013) of the current levy.

---

**FINDING 1: USE OF EMS LEVY FUNDING CONFORMED TO 2010 ADOPTED EMS POLICIES AND FINANCIAL PLAN.**

The audit determined that the use of EMS Levy funding complied with the 2010 Adopted EMS Policies and Financial Plan based on a comparison of the financial plan contained in Ordinance 15861, the 2010 annual adopted budget, actual results from the King County ARMS financial system, and schedules prepared by EMS management to calculate reserves and designations. Exhibit B below presents a summary comparing the 2010 EMS Levy operations to the 2010 adopted budget and financial plan.

**EXHIBIT B****Financial Comparison of 2010 EMS Operations to Budget and Financial Plan**

	2010 Proposed (15861)	Difference	2010 Adopted Budget	Difference	2010 Actual
<b>BEGINNING FUND BALANCE</b>	\$9,530,365	\$16,399,059	\$25,929,424	\$4,059,387	\$29,988,811
<b>EMS REVENUES</b>					
Taxes	65,813,748	(2,827,847)	62,985,901	1,794,970	64,780,871
All Other Revenues	892,422	(279,322)	613,100	413,017	1,026,117
<b>TOTAL EMS REVENUE</b>	66,706,170	(3,107,169)	63,599,001	2,207,987	65,806,988
<b>EXPENDITURES</b>					
Advanced Life Support Services	(\$37,869,114)	\$2,193,858	(\$35,675,256)	\$402,660	(\$35,272,596)
Basic Life Support Services	(15,333,319)	299,514	(15,033,805)	998	(15,032,807)
Regional Support Services	(6,838,366)	(16,422)	(6,854,788)	902,155	(5,952,633)
Strategic Initiatives	(1,253,878)	(202,978)	(1,456,856)	623,660	(833,196)
<b>TOTAL EXPENDITURES</b>	(61,294,677)	2,273,972	(59,020,705)	1,929,473	(57,091,232)
<b>Total Excess of Revenues Over Expenditures</b>	5,411,493	(833,197)	4,578,296	4,137,460	8,715,756
<b>Other Items Affecting Fund Balance*</b>	(2,643,000)	(4,921,869)	(7,564,869)	7,487,697	(77,172)
<b>ENDING FUND BALANCE</b>	12,298,858	10,643,993	22,942,851	15,684,544	38,627,395
<b>TOTAL RESERVES AND DESIGNATIONS</b>	(8,169,921)	(6,098,865)	(14,268,786)	(3,081,505)	(17,350,291)
<b>ENDING UNDESIGNATED FUND BALANCE</b>	\$4,128,937	\$4,545,128	\$8,674,065	\$12,603,039	\$21,277,104

\*Other Items Affecting Fund Balance includes annual audit expenses and recognition of unrealized loss-GAAP & Journal Entry from CAFR

**SOURCE:** EMS Levy 2010 Adopted Budget and Financial Plan and EMS Division financial documents.

**EMS 2010 Excess Revenues Over Expenditures Were \$4 Million Higher than Planned**

The results indicate that the actual 2010 EMS Levy revenues were higher than the 2010 adopted budget by \$2.2 million, and actual expenditures were less than the budget by \$1.9 million. Actual excess revenues over expenditures equaled \$8.7 million during 2010 compared to the budget of \$4.6 million. Factors contributing to the \$4.1 million positive budget variance included approximately \$1.8 million in tax revenues collected above the projected amount and approximately \$1.9 million in under-spending in all four major EMS program areas.

Also, as shown in Exhibit B above, the “Other Items Affecting Fund Balance” was substantially unused. This category is largely comprised of EMS contingencies, including the ALS Salary and Wage Contingency (\$1.5 million), and the Disaster Response Contingency (\$5 million), which were budgeted but not needed during 2010. The category also includes funding for the audit.

**Total 2010 Reserves  
and Designations Were  
\$1.9 Million Less than  
the 2009 Total**

The EMS Division partially reduced the combination of the \$4.1 million positive operating variance, the \$4.1 million positive variance in beginning fund balance, and the \$7.5 million in unused contingencies by transferring \$3.1 million over the amount planned in the adopted budget to reserves and designations. The remaining positive variances increased the ending undesignated fund balance. The changes in reserves and designations from 2009 to 2010 included:

1. \$0.4 million of the reserve for encumbrances was used;
2. \$0.2 million was added to designations for King County Medic One (KCM1) equipment bringing the total to \$2.0 million;
3. \$0.2 million was added to designations for ALS Providers bringing the total to \$3.0 million;
4. \$0.5 million was added to the Regional Support program balances bringing the total to \$2.3 million;
5. \$2.2 million was added to a new reserve for outstanding ALS Retirement liability in conformity with the adopted budget; and
6. The reserve for millage reduction was reduced by \$4.6 million in conformity with the adopted budget bringing the total to \$5.0 million.

The total 2010 reserves and designations were \$1.9 million less than the 2009 total.

These changes (and other reserves in the budget offset by additions to provider loan balances), when combined with the prior year balances, allocate approximately \$17 million of the ending fund balance (\$38.6 million) resulting in an ending undesignated fund balance of \$21.3 million.

Exhibit C provides a more detailed comparison schedule related to the year-end balances for the reserves and designations based on an EMS Division worksheet.

**EXHIBIT C**  
**Comparison of Year-End Fund Balances for Reserves and Designations to Adopted Financial Plan and Budget**

	2010 Proposed (15861)	Difference	2010 Adopted Budget	Difference	2010 Actual
<b>RESERVES AND DESIGNATIONS</b>					
Encumbrances	\$ (977,521)	\$ (1,160,995)	\$ (2,138,516)	\$ 2,020,199	\$ (118,317)
Reappropriation	(25,000)	25,000	-	-	-
<b>Designations</b>					
Prepayment	-	-	-	-	-
Provider/Program Balances	(1,022,900)	(203,496)	(1,226,396)	(3,974,589)	(5,200,985)
ALS Provider Loans	-	328,439	328,439	375,940	704,379
KCM1 Equipment Replacement	-	(769,910)	(769,910)	(1,272,213)	(2,042,123)
Designations from 2002-2007 Levy	-	-	-	(230,842)	(230,842)
<b>Reserves for Unanticipated Inflation</b>					
Diesel Cost Stabilization	(2,457,000)	1,707,000	(750,000)	-	(750,000)
Pharmaceuticals/Medical Equipment	(828,000)	-	(828,000)	-	(828,000)
Call Volume/Utilization Reserve	(732,000)	-	(732,000)	-	(732,000)
<b>Reserves</b>					
Medic Unit/Chassis Obsolescence	(562,500)	201,751	(360,749)	-	(360,749)
Risk Abatement	(565,000)	-	(565,000)	-	(565,000)
Outstanding ALS Retirement Liability			(2,185,000)		(2,185,000)
Millage Reduction	(1,000,000)	(4,041,654)	(5,041,654)	-	(5,041,654)
<b>TOTAL RESERVES AND DESIGNATIONS</b>	<b>\$ (8,169,921)</b>	<b>\$ (6,098,865)</b>	<b>\$ (14,268,786)</b>	<b>\$ (3,081,505)</b>	<b>\$ (17,350,291)</b>

**SOURCE:** EMS Levy 2010 Adopted Financial Plan and Budget and EMS Division Financial Documents.

The comparison in Exhibit C indicates that EMS managed the reserves and designations as required by the adopted 2010 policies and financial plan. EMS management also used the King County financial systems to track all reserves and designations, as recommended in the 2009 Emergency Medical Services Financial and Compliance Audit published in 2010, which improved transparency in accounting for these EMS accounts.

**EMS Levy Ending Fund  
Balance Well Above Six  
Percent Threshold  
Required by Adopted  
EMS Financial Policies**

The ending undesignated fund balance of \$21.3 million was approximately \$12.6 million more than the adopted 2010 budget and \$17.2 million more than the original proposed 2010 budget in County Ordinance 15861. The actual ending undesignated fund balance as a percent of annual revenue was also well above the six percent threshold established by the EMS Levy financial plan. The higher than projected ending undesignated fund balance at the end of 2010 helps ensure sufficient funds are available to offset reduced property tax revenues forecasted for the remainder of the EMS Levy period.



# 3 2010 EMS LEVY DISPATCH SERVICES

---

## Chapter Summary

This chapter focuses on dispatch costs incurred during the third year of the EMS Division's implementation of the 2008 to 2013 EMS Levy financial plan. The primary objective of this portion of the audit is to review the dispatch fee schedules established by independently owned and operated EMS dispatch centers to determine whether the fees are reasonable and based on acceptable methodologies. We also assessed the impact of increased dispatch fees on the annual Advanced Life Support (ALS) unit allocations, Basic Life Support (BLS) allocations, and the EMS Levy financial plan through 2013.

### **Dispatch Services Provided Primarily by Two Independent Agencies**

Four agencies receive and dispatch calls for emergency medical services in King County outside the City of Seattle. The North East King County Regional Public Safety Communications (NORCOM) and the Valley Communications Center (Valley Com) serve as the primary EMS dispatch providers that receive and dispatch responders to a large majority of the emergency medical calls in King County. The Port of Seattle and Enumclaw Police Department provide dispatch services for the remaining EMS calls in King County. Both of the primary dispatch agencies receive E9-1-1 calls for police, fire suppression and emergency medical services.

NORCOM and Valley Com are both public corporations independently owned and operated as private, not-for-profit agencies. The agencies are primarily financed by fees assessed to user agencies. The two dispatch agencies have developed different financial models to apportion costs to user agencies for

various emergency dispatch services, but both charge operating expenses to user agencies on a cost-per-call basis.

ALS Providers in King County receive full and direct reimbursement from the EMS Levy through the EMS Division for all dispatch expenses. Dispatch services are included as a cost category used in the development of the ALS unit allocation model. BLS Providers receive an annual distribution of levy revenue from the EMS Division based on a combination of the volume of responses to calls for EMS services and assessed property values within the fire agencies' jurisdictions to help offset the costs of providing EMS services, including BLS dispatch services.

#### **Summary of Findings and Recommendations**

The cost of EMS dispatch services significantly increased during the 2008 to 2013 EMS Levy, due in part to significant investments in new technologies. NORCOM was created as a new dispatch agency in 2009 serving north and east King County and purchased a new upgraded Computer Aided Dispatch (CAD) system. Valley Com is in the process of upgrading to a new CAD system. NORCOM has higher operating and capital expenses than the former dispatch agency, although the cost differential was not analyzed as part of this audit.

#### **The EMS Division Effectively Responded to Dispatch Cost Increases**

The EMS Division effectively responded to the significant dispatch cost increases to continue providing full funding of ALS dispatch services and indirect support of BLS dispatch services for the remaining years of the levy. The dispatch fee schedules established by both NORCOM and Valley Com were based on acceptable cost allocation practices, but NORCOM developed an allocation policy that results in a higher distribution of costs for EMS/fire user agencies than police user agencies.

Because NORCOM does not differentiate between EMS and fire suppression calls and has adopted a complex cost allocation model, the ALS Providers did not have detailed documentation to support the reimbursement requests for dispatch services submitted as part of their invoices to the EMS Division. The EMS Division and ALS agencies were unable to verify the types and levels of dispatch services provided by the dispatch agencies, except for King County Medic 1, based on the invoices received. As a result, neither the EMS Division nor audit staff were able to confirm that the amounts billed to and reimbursed by the EMS Levy were consistent with the services received from the dispatch agencies.

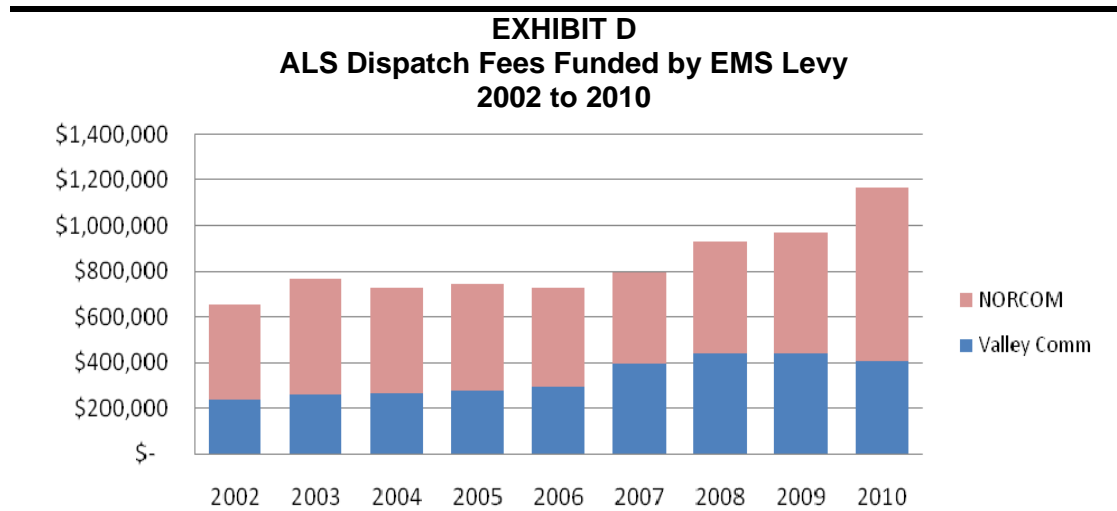
**The audit recommends** that the EMS Division and ALS Providers require additional documentation directly from the dispatch agencies that identifies both annual capital and operating dispatch costs. The ALS Providers should also require dispatch agencies to itemize invoices to clearly show expenses that are solely attributable to ALS to ensure that the dispatch services received are properly accounted for in the ALS quarterly billings. The EMS Division should regularly review dispatch invoices and documentation received by ALS Providers to verify that the actual amounts billed are consistent with the dispatch services received, and use this information as part of the dispatch reserve analysis.

---

**FINDING 2: THE EMS DIVISION RESPONDED EFFECTIVELY IN USING EMS LEVY FUNDS TO COVER SIGNIFICANT COST INCREASES FOR EMS DISPATCH SERVICES.**

As the primary EMS dispatch providers in King County, NORCOM serves north and east King County and Valley Com serves south King County. Both agencies dispatch emergency responders to calls for police, fire suppression, and emergency medical services. As shown in Exhibit D below, the dispatch service costs fluctuated but

trended upward during the 2002 to 2007 EMS Levy period, and significantly increased in the 2008 to 2010 EMS Levy period.



**Note:** NORCOM began providing dispatch services in July, 2009.

**SOURCE:** King County EMS Division, 2010.

**Annual Dispatch Costs Increased by 78 Percent from 2002 to 2010**

As shown above, ALS dispatch service fees charged to the EMS Levy were \$652,013 in 2002, but increased to \$795,260 by 2007 for an average increase of four percent per year. In 2008, the dispatch fees increased to \$929,593 (a 17-percent increase over 2007) and escalated to approximately \$1.2 million in 2010. The \$1.2 million represents a 78-percent increase in annual dispatch costs from 2002 through 2010. The total dispatch service cost for the 2008 to 2013 EMS Levy based on calculations used to establish the dispatch reserve is projected at \$6.65 million, or \$2.2 million higher than the \$4.4 million for the 2002 to 2007 EMS Levy period (51 percent increase overall) while inflation rates were lower than projected during the levy period and lower than the rates in the 2002-2007 levy period.

**2002 to 2007 EMS Levy  
Provider Balances and  
New Dispatch and  
Communications  
Reserves Established  
to Fund Increased  
Dispatch Costs**

To respond to the significant dispatch cost increases, the EMS Division allowed for the use of certain “2002-2007 designated reserves” during 2010 to fund the dispatch service costs in excess of the original and revised levy financial plans. In addition, the EMS Division established a designated reserve to fund dispatch and communications costs in its 2011 budget. Of the total \$870,000 required to fund dispatch and communications during the 2008 to 2013 levy period, \$250,000 is accounted for under the 2011 use of reserve fund balance line item and the remaining \$620,000 is established as a reserve for future years. The financial information and calculations used to establish this reserve are consistent with our assessment of potential levy cost increases in future years.

---

**FINDING 3: THE EMS LEVY REIMBURSEMENTS FOR NORCOM DISPATCH SERVICES WERE HIGHER THAN THOSE FOR VALLEY COM DISPATCH SERVICES.**

The EMS Levy is affected by costs from two dispatch service centers, NORCOM and Valley Com. Despite the fact that dispatch agencies have organizational and staffing variations, cost-per-call is an accepted benchmark for comparison according to a 2009 study conducted by *9-1-1 SME Consulting*. Cost per call based on call volume is also commonly used to budget and bill user agencies for dispatch services.

Due to the nature of the operation, each service provider’s costs are driven by two main components: 1) investment in infrastructure (structures and technology) and 2) personnel costs to operate and administer the programs. Personnel costs are by far the most significant, representing approximately 80% of costs for Valley Com and approximately 70% for NORCOM. The annual depreciation and/or lease costs represent approximately 6% of costs for Valley Com and approximately 10% for NORCOM.

A common practice in developing cost allocation or fee-setting methodologies include the use of a “surrogate” measure of effort. The best surrogate measure of effort is one that appropriately balances the need for preciseness of the measure to mimic the effort involved in the activity and the cost to obtain such surrogate measure. We believe that the call for service is an adequate measure of effort since it is the main driver of activity by the dispatch providers. However, with the advent of the CAD dispatch systems that are currently being deployed, better surrogate measures may be available now or in the future.

**Dispatch Costs Were Based on Acceptable Methodologies**

Both NORCOM and Valley Com use acceptable methodologies to allocate costs to user agencies based on the cost per call and call volume. NORCOM and Valley Com divide the total budgeted annual costs of dispatch operations (less the E9-1-1 levy subsidy) by the call volume to determine the total costs to distribute to user agencies. Generally, a cost per call rate is then determined by dividing the total operating costs by the total volume of dispatched calls. The cost-per-call serves as the “surrogate” measure that dispatch agencies commonly use because it is quantifiable and mimics the level of effort devoted to each participating agency.

Valley Com uses a cost-per-call rate based on its total operating expenses and 100 percent of its call volume to allocate costs to all EMS/fire and police. Valley Com’s use of a surrogate measure is reasonable and equitable, because Valley Com charges the same cost per call to all ALS, BLS, fire suppression, and police user agencies.

Although NORCOM also allocates its full operating expenses to user agencies, it has also developed three different cost-per-call rates for its ALS, EMS/fire, and police user agencies. NORCOM divides its total operating expenses to form two billing pools, each representing 50 percent of its total annual expenses, one for

EMS/fire suppression dispatch services and the second pool for police dispatch services. This results in higher costs per call for EMS/fire than police agencies, unless both ALS and BLS units are dispatched to the same medical emergency as discussed below.

To develop the cost per call rate for EMS/fire calls, one billing pool is divided by the total volume of EMS/fire calls. The police cost per call rate is determined by dividing the second pool by the total volume of police calls. The cost per call for EMS/fire suppression dispatch services is \$72.66 compared to a \$36.63 cost-per-call for police dispatch services. The allocation of NORCOM's dispatch costs using the 50-50 percent split was adopted by NORCOM's Principal User Agencies in Attachment A to the Interlocal Agreement that established NORCOM in 2009.

**NORCOM Governing  
Board Reduced Fee for  
ALS Dispatches**

In 2010, NORCOM adopted a third call rate for ALS dispatch services that offsets the higher EMS/fire services cost since both ALS and BLS units are dispatched in the same call. When both units respond, the ALS and BLS user agencies each pay one-half of the full cost-per-call rate for EMS/fire suppression services. In the event that only a BLS unit is dispatched, the BLS responding agency is responsible for 100 percent of the \$72 dispatch cost.

In 2010, Valley Com charged the same cost per call and the full cost per call regardless of whether only one or multiple ALS and BLS units were dispatched. In the event both an ALS and BLS unit were concurrently dispatched, the cost per call was doubled or \$55.34 total for both units. Exhibit E below provides a summary of the actual 2010 Valley Com and NORCOM call rates charged for the different categories of emergency dispatch services provided to user agencies in King County.

<b>EXHIBIT E</b>		
<b>Comparison of 2010 Dispatch Service and Costs</b>		
Dispatch Agency	Unit Costs	Percent of Total Costs Allocated
<b>Fire Suppression Dispatch Services</b>		
NORCOM	\$72.66	100%
Valley Com	\$27.67	100%
<b>EMS Dispatch Services—Both ALS and BLS Units Dispatched</b>		
NORCOM	\$36.33	50% for ALS
NORCOM	\$36.33	50% for BLS
Valley Com	\$55.34	100% each or \$27.67 for ALS and for BLS
<b>EMS Dispatch Services—Only BLS Unit Dispatched</b>		
NORCOM	\$72.66	100%
Valley Com	\$27.67	100%
<b>Police Dispatch Services</b>		
NORCOM	\$36.63	100%
Valley Com	\$27.67	100%

**SOURCE:** Valley Communications 2010 Adopted Budget, p. 28, and 2010 NORCOM Adopted Budget, p. 31.

As shown in Exhibit E above, the NORCOM EMS/fire suppression cost-per-call is almost twice as high as the NORCOM police call rate. This is primarily due to NORCOM's higher annual operating cost as well as the 50-50 percent split of its operating expenses into two separate cost pools before the cost-per-call rate is calculated.

**Volume of ALS/BLS  
Dispatch Calls  
Considerably Less than  
Volume of Police Calls  
for Dispatch Services**

NORCOM's stated basis for the 50-50 percent split is a higher number of dedicated dispatch staff and call volumes. NORCOM's police call volume, however, is approximately 66 percent of the total NORCOM call volume compared to 33 percent for EMS/fire suppression call volumes. From a cost allocation perspective, this 50-50 split is not supported by call volume data.

NORCOM's multiple cost-per-call rates were also higher than Valley Com's single cost-per-call rate of \$27.67 because Valley Com's total call volume is more than double NORCOM's total call volume. In addition, Valley Com also used accumulated reserves to help increased operating expenses in 2010, which contributed to its lower costs per call rate.



Exhibit F below displays a comparison of Valley Com's and NORCOM's cost-per-call rates based on total operating expenses and dispatch call volume for 2010. It also shows that the actual cost per call for NORCOM to recover net expenses without the 50-50 percent split in the 2010 adopted NORCOM budget was \$44.61.

**EXHIBIT F**  
**Comparison of Valley Com and NORCOM Expenses, Calls and Rates**

	Valley Com	Cost per call	Norcom	Cost per call
Total calls		417,470		184,973
Salaries and Benefits	10,432,074	24.99	6,738,371	36.43
Other O&M	1,526,332	3.66	2,311,293	12.50
Depreciation	666,437	1.60	589,369	3.19
Total Operating Costs	12,624,843	30.24	9,639,033	52.11
Less Other Revenue	(2,617,504)	(6.27)	(1,387,186)	(7.50)
Net cost to recover from rates	10,007,339	23.97	8,251,847	44.61
<b>Budgeted Allocation Rates for 2010:</b>				
Police		\$ 27.67		\$ 36.63
Fire/EMS		\$ 27.67		\$ 72.66

**SOURCE:** Valley Communications 2010 Adopted Budget, p. 28; 2010 NORCOM Adopted Budget, p. 31

**Better Tracking of the Type and Duration of 9-1-1 Calls May Lead to More Precisely Defined Dispatch Fees**

Given the differing cost-per-call rates charged for various categories of dispatches, NORCOM's cost-per-call rate does not provide a consistent or transparent surrogate measure for the level of effort required to dispatch emergency calls. Ideally, the cost per call should be linked to the level of effort required to complete various types of emergency calls. However, neither NORCOM nor Valley Com currently differentiates between the different types of EMS/fire calls, and has neither a procedure nor process in place to provide an objective measure of the average processing times for the different types of ALS, BLS/fire suppression, and police calls.

**CAD Systems Can  
Generate Discrete Call  
Taking and Dispatch  
Times to Measure  
Performance and to  
Establish Fees**

With the advent of Computer Aided Dispatch (CAD) systems that are currently being deployed, better surrogate measures may be available in the near future. For example, a more precise measure for call taking and dispatching calls could be based on the actual time segments required after the call takers answer the telephone and enter the initial information about the nature, location, and other particulars of the call into the CAD system to the time that a responding agency is dispatched. After the initial information is entered, most CAD systems can “clock” the time required for the dispatcher to transfer the call to a dispatcher, or the time required for the dispatcher to dispatch the call to the correct responding agency. While the entire telephone time cannot be “clocked” by the dispatch agency, the discrete call taking and dispatching time segments captured by the CAD can be identified, and average times developed to serve as more precise surrogate measures of the differing levels of effort involved in dispatching various types of emergency calls.

Another more precise surrogate measure could also be derived from dispatched calls for the King County Medic One data that is tracked by Valley Com. King County Medic One is the primary ALS Provider that is located in the Valley Com service area and only responds to ALS calls. As a result, Valley Com can easily track the number of calls and related call data. The Valley Com CAD system has the capacity to track time segments for dispatched calls after the initial information is entered into its CAD system. Based on the Valley Com’s call data, it is possible to develop an average ALS dispatch processing times that could more precisely approximate the level of effort for ALS calls and provide an objective basis for allocating EMS dispatch costs.

**Peer Agencies’  
Dispatch Cost Per Call  
Generally Lower than  
King County Dispatch  
Costs**

To assess how the cost per call of King County’s dispatch agencies compared to peer agencies, we contacted four EMS dispatch agencies that the EMS Division previously identified as comparable agencies for benchmarking purposes. As shown in Exhibit G, the dispatch cost per call for the two King County dispatch agencies were in the range of the costs per call for four peer agencies, and the weighted average based on volume of the dispatch costs for King County’s two dispatch agencies were higher than those for the four peer agencies.

<b>EXHIBIT G</b>		
<b>Peer Comparison of 2010 EMS Call Volumes and Cost Per Call</b>		
	Total Call Volume	Cost Per Call
<b>King County Dispatch Agencies</b>		
Valley Com	89,770	\$27.67
NORCOM	62,002	\$72.66
Weighted average cost per call		\$46.05
<b>Peer EMS Agencies</b>		
Hennepin County, MN	124,198	\$27.72
San Francisco, CA	87,440	\$41.78
Spokane County, WA	43,158	\$77.50
Thurston County, WA	24,156	\$21.50
Weighted average cost per call		\$39.29

**SOURCE:** King County Auditor’s Office *Peer Survey*, June-July 2011.

Based on the different cost allocation methodologies, EMS/fire agencies within the NORCOM service area pay more per call than those in the Valley Com service area. The cost per call for EMS/fire agencies in NORCOM’s service area is \$72.66 versus \$27.67 in Valley Com’s service area. The cost-per-call rate is also higher than the previous cost charges for emergency dispatches in north and east King County. The factors contributing to the cost differences include differences in organization and staffing, as well as the NORCOM Interlocal Agreement that requires a 50-50 split of costs between fire/EMS and police user agencies. The effect of this agreement is that even though police agencies receive a

majority of calls, they are only allocated 50 percent of the costs. Also, NORCOM processes approximately 185,000 calls per year, which is approximately half the number of Valley Com's 417,000 annual calls.

**Costs Will Increase  
More than Expected  
Inflation and More  
than Planned**

Another factor to consider related to future dispatch cost growth is NORCOM's use of smoothing techniques in its rate setting process. NORCOM uses two "smoothing" techniques, one for the Bellevue cost savings and another for the change in counting calls for ALS agencies. The "Bellevue cost savings" technique is designed to benefit both non-Bellevue fire/EMS and police agencies' fees by adding a fixed amount to Bellevue, which declines over a seven-year period and therefore increases the costs to all other participants over the same period. The "smoothing rebate" is allocated 70 percent to fire/EMS agencies and 30 percent to police agencies. This allocation appears consistent with the call volumes noted above.

As the "Bellevue smoothing" effect will amortize over time, the actual EMS Levy costs for dispatch services will increase. In addition to normal cost increases, the EMS Division estimates that dispatch costs paid for by the EMS Levy will increase by approximately \$620,000 over the remaining two to three years of the levy period.

---

**FINDING 4: THE EMS DIVISION LACKS PRODUCTIVITY STANDARDS FOR EMS CALL ANSWERING AND DISPATCH TIME PERFORMANCE AND REPORTING REQUIREMENTS FOR EMS DISPATCH SERVICES.**

Recently, the EMS Division entered into contracts directly with dispatch agencies to provide incentives for improving dispatch services. The EMS Division's current contracts with Valley Com and NORCOM funded by the EMS Levy strategic and regional initiative programs focus on the implementation of ALS dispatch

performance standards in the amount of \$136,740 and \$98,233, respectively.

The EMS Division's ALS Dispatch Performance Standards require NORCOM and Valley Com to demonstrate compliance with the Medical Dispatch Performance Standards by reporting on specified data entered in the CAD systems in order to be eligible for quarterly reimbursement of services:

- Incident Address (100% compliance)
- Initial Dispatch Codes (98% compliance)
- Alarm Time (100% compliance)
- Aid/Medic Dispatch Time (100% compliance)
- Geocode or Latitude/Longitude (98% compliance)

Both dispatch agencies are in compliance with these dispatch performance standards and reporting requirements.

**Dispatch Productivity Standards Could Promote Transparency and Would Be Consistent with Best Practices**

To date, however, the EMS Division does not require use of a productivity standard based on the time requirements to provide dispatch services. A productivity standard for dispatch processing times can provide greater transparency that calls are answered expeditiously and are aligned with best practice time standards developed by national organizations. Other agencies that respond to emergencies have developed time standards. For example, the King County Enhanced 9-1-1 Program has developed a call-answering standard that requires 90 percent of 9-1-1 calls to be answered within 10 seconds in 80% of the hours in each quarter. This standard is consistent with the National Emergency Number Association's standard that 90 percent of 9-1-1 calls should be answered within 10 seconds during the busiest hours.

Similarly, American Medical Response (AMR) has developed some key dispatch processing time indicators that are reported monthly to the National Academy of Emergency Dispatch (NAED) and user agencies. AMR's dispatch time/productivity standards include:

- Phone pick up to dispatcher's queue
- Phone pick up to incident dispatch
- Phone pick up to dispatcher's queue for highest acuity life threatening emergency incident dispatch: Queue to Assign Times
- Dispatch delays
- Medical Priority Dispatch System Compliance (EMD Medical Dispatch Scores)
- Percentage of Wrong Addresses entered in Call Entry compared to total system volume of calls entered
- GIS Failures due to correct address being entered but geography data is incorrect

**Dispatch Agencies  
Already Provide  
Performance Reports  
to EMS Division**

This data is trended quarterly with a larger report being generated and distributed to each EMS agency and AMR operations. The AMR Quality Improvement Unit meets monthly to review the data and identify action items and training to address the Quality Improvement portion of the quality assurance relationships.

NORCOM and Valley Com have the capability to code and generate some, if not all, of the information needed to monitor and report on its dispatch processing times. For example, NORCOM already reports on its call answering times based on the King County standards, and has established and reported on five different priority codes for emergency police calls.

**Recommendations:** The EMS Division, in collaboration with the dispatch agencies, should develop timeliness standards for EMS dispatch services. The EMS Division should also consider incentivizing the implementation of the productivity standards

through the EMS Levy funded strategic initiatives or regional initiatives to promote ongoing compliance with the standards, and quarterly reporting of timely performance consistent with ALS Dispatch Performance Standards Strategic Initiative discussed above.

---

**FINDING 5: THE EMS DIVISION NEEDS TO ESTABLISH REIMBURSEMENT POLICIES FOR EMS DISPATCH SERVICES TO IMPROVE THE TRANSPARENCY OF ALLOWABLE DISPATCH COSTS.**

As discussed earlier, ALS Providers in King County receive full and direct reimbursement from the EMS Levy for all dispatch service expenses. Dispatch services are included as a line item in the ALS unit allocation model. BLS Providers receive an annual distribution from the EMS Levy based on a combination of the volume of responses to calls for EMS services and assessed property values within the fire agencies' jurisdictions. Thus, the EMS Levy indirectly supports the BLS Providers' dispatch expenses.

**Billings for ALS  
Dispatch Services Do  
Not Differentiate  
Between Types of EMS  
Calls**

Although the EMS Division directly contracts with Valley Com for dispatch services for King County Medic One, the other fire agencies contract directly with NORCOM for ALS and BLS dispatch services. As such, the EMS Division is not directly involved in the financial or contract management of those dispatch services. In addition, the EMS Division and the dispatch agencies do not routinely exchange information regarding estimated call volumes, annual fees and amounts that will be allocated to the ALS and BLS Providers. In addition, the billings submitted to the EMS providers by the dispatch agencies do not always differentiate between the type of calls, or amounts billed for operating versus capital costs. As a result, the EMS Division and the ALS Providers do not receive the information that would enable them to verify what services were received, and that the actual amounts the ALS

Providers were billed was consistent with the dispatch services received.

**Improved  
Documentation of  
Dispatch Services  
Needed from ALS  
Providers and Dispatch  
Agencies for  
Reimbursement  
Purposes**

Because the type of emergency calls are generally not segregated by the dispatch agencies, ALS Providers are unable to adequately document call volume for the EMS Division when requesting reimbursements for dispatch services. According to the EMS Division, ALS Providers have proportioned their bill to program areas/lines of business (ALS, BLS, and fire suppression) based on local agency understanding of the assumptions used by the dispatch agencies. Without improved documentation, the ALS Providers cannot ensure that requests for reimbursements are solely attributable to ALS services. The EMS Levy provides full support and reimbursement only for ALS services.

**Recommendations:** The EMS Division should establish a communications protocol with NORCOM and Valley Com to ensure a common understanding of the basis of the annual dispatch costs that are allocated to EMS providers and the annual cost per call. In addition, the EMS Division and ALS Providers should obtain itemized invoices from the dispatch agencies to clearly show expenses that are attributable to ALS and verify that reimbursement requests are justified based on the actual volume and costs of ALS dispatch services. The EMS Division should regularly review dispatch invoices received by ALS Providers to verify that the actual amounts billed are consistent with the dispatch services received, and use this information as part of the dispatch reserve analysis.



**APPENDICES**

[Blank Page]

# APPENDIX 1 2008-2013 Emergency Medical Services Levy Financial Plan

(From Levy Ordinance 15861)

The EMS Levy financial plan identifies the estimated annual revenues generated from the levy, and allocates a large percentage of funds to the four EMS programs. The remaining levy revenues are distributed to a series of contingencies, reserves and designations. The financial plan also requires an undesignated fund balance equivalent to six percent of the annual revenues.

## EMERGENCY MEDICAL SERVICES LEVY FINANCIAL PLAN

	2006 Actuals	2007 Estimated	2008 Proposed	2009 Proposed	2010 Proposed	2011 Proposed	2012 Proposed	2013 Proposed
<b>BEGINNING FUND BALANCE</b>	<b>10,733,241</b>	<b>9,296,940</b>	<b>6,070,111</b>	<b>7,478,574</b>	<b>9,530,365</b>	<b>12,298,857</b>	<b>13,976,201</b>	<b>14,467,537</b>
<b>REVENUES</b>								
Property Taxes	38,112,894	39,324,543	62,349,590	64,065,620	65,813,748	67,630,570	69,508,371	71,460,527
State Grants	1,463	0	0	0	0	0	0	0
Intergovernmental Payment	278	0	0	0	0	0	0	0
Charges for Services	80,571	82,950	52,000	54,340	56,785	59,341	62,011	64,801
Interest Earnings/Miscellaneous Revenue	1,352,798	483,574	306,541	366,450	457,458	571,897	649,893	672,740
Other Financing Sources	9,059	5,040	4,503	3,567	3,179	2,831	2,621	2,457
Transfer from Current Expense Subfund	375,000	375,000	375,000	375,000	375,000	375,000	375,000	375,000
<b>EMS REVENUE TOTAL</b>	<b>39,932,064</b>	<b>40,271,107</b>	<b>63,087,633</b>	<b>64,864,978</b>	<b>66,706,170</b>	<b>68,639,638</b>	<b>70,597,895</b>	<b>72,575,526</b>
<b>EXPENDITURES</b>								
Advanced Life Support Services	(27,445,965)	(27,945,082)	(34,558,361)	(36,100,374)	(37,869,114)	(40,021,655)	(42,274,793)	(45,408,597) (a)
Bellevue Fire Department	(5,719,090)	(6,210,085)	(7,368,004)	(7,602,457)	(7,870,564)	(8,237,859)	(8,631,040)	(9,048,314)
King County Medic One	(12,456,489)	(11,783,566)	(14,080,283)	(14,795,608)	(15,189,092)	(15,880,326)	(16,620,212)	(17,405,389)
Redmond Fire Department	(4,233,568)	(4,780,238)	(5,345,018)	(5,776,283)	(5,902,923)	(6,178,394)	(6,473,280)	(6,786,235)
Shoreline Fire Department	(3,659,425)	(3,758,230)	(4,840,864)	(4,689,502)	(4,919,102)	(5,148,662)	(5,394,400)	(5,655,196)
Skykomish/King County Fire District 50	(60,000)	(60,000)	(170,058)	(178,911)	(187,592)	(196,243)	(205,509)	(215,346)
Vashon Fire Department	(1,317,383)	(1,352,963)	(1,603,505)	(1,688,221)	(1,770,877)	(1,853,518)	(1,941,984)	(2,035,871)
New Units/Unallocated	N/A	N/A	(907,463)	(937,900)	(1,579,607)	(2,059,465)	(2,522,081)	(3,755,693) (b)
Outlying Area Service Levels	N/A	N/A	(243,167)	(431,491)	(449,356)	(467,189)	(486,285)	(506,554) (c)
Basic Life Support Services	(9,420,513)	(9,674,866)	(14,390,254)	(14,886,717)	(15,333,319)	(15,738,118)	(16,163,048)	(16,599,450) (d)
Auburn Fire Department	(360,914)	(371,121)	(574,225)	(594,040)	(611,863)	(628,018)	(644,976)	(662,392)
Bellevue Fire Department	(1,164,786)	(1,208,884)	(1,862,757)	(1,927,035)	(1,984,852)	(2,037,257)	(2,092,268)	(2,148,765)
Black Diamond Fire Department	(48,770)	(50,087)	(63,976)	(66,184)	(68,170)	(69,970)	(71,859)	(73,799)
Bothell Fire Department	(190,302)	(201,298)	(316,243)	(327,156)	(336,972)	(345,869)	(355,208)	(364,800)
Duvall Fire Department	(110,372)	(110,372)	(145,444)	(150,463)	(154,977)	(159,069)	(163,364)	(167,775)
Eastside Fire and Rescue	(949,850)	(949,850)	(1,328,850)	(1,374,704)	(1,415,950)	(1,453,334)	(1,492,578)	(1,532,881)
Enumclaw Fire Department	(230,549)	(230,549)	(285,744)	(295,604)	(304,473)	(312,512)	(320,951)	(329,617)
Kent Fire and Life Safety	(759,340)	(775,056)	(1,190,773)	(1,231,863)	(1,268,823)	(1,302,323)	(1,337,489)	(1,373,605)
King County Fire District 2	(227,173)	(239,292)	(374,201)	(387,114)	(398,729)	(409,256)	(420,307)	(431,656)
King County Fire District 20	(106,458)	(112,317)	(164,387)	(170,059)	(175,161)	(179,786)	(184,641)	(189,627)
King County Fire District 27	(67,418)	(69,238)	(92,176)	(95,357)	(98,218)	(100,811)	(103,533)	(106,329)
King County Fire District 40	(210,667)	(210,667)	(299,191)	(309,515)	(318,801)	(327,211)	(336,054)	(345,128)
King County Fire District 44	(252,271)	(252,271)	(324,765)	(335,972)	(346,052)	(355,189)	(364,780)	(374,630)
King County Fire District 47	(18,705)	(19,210)	(23,051)	(23,846)	(24,561)	(25,209)	(25,890)	(26,589)
King County Fire District 49 (51)	(18,354)	(18,850)	(22,909)	(23,700)	(24,411)	(25,056)	(25,733)	(26,428)
King County Fire District 50	(32,348)	(33,221)	(40,921)	(42,333)	(43,603)	(44,754)	(45,962)	(47,203)
Kirkland Fire Department	(495,285)	(512,252)	(789,132)	(816,362)	(840,855)	(863,056)	(886,361)	(910,295)
Maple Valley Fire and Life Safety	(304,293)	(304,293)	(409,441)	(423,570)	(436,278)	(447,797)	(459,889)	(472,307)
Mercer Island Fire Department	(235,416)	(244,629)	(376,189)	(389,170)	(400,846)	(411,429)	(422,539)	(433,949)
Milton Fire Department	(14,104)	(14,889)	(20,320)	(21,021)	(21,652)	(22,224)	(22,824)	(23,440)
North Highline Fire Department	(271,067)	(280,748)	(404,954)	(418,928)	(431,497)	(442,890)	(454,849)	(467,131)
Northshore Fire Department	(203,896)	(211,146)	(326,232)	(337,489)	(347,615)	(356,793)	(366,427)	(376,321)
Pacific Fire Department	(36,000)	(36,972)	(51,115)	(52,879)	(54,466)	(55,904)	(57,414)	(58,964)
Pierce County Fire District 27	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)
Redmond Fire Department	(539,880)	(574,375)	(863,640)	(893,442)	(920,248)	(944,545)	(970,050)	(996,244)
Renton Fire Department	(492,082)	(514,465)	(801,932)	(829,604)	(854,495)	(877,056)	(900,739)	(925,061)
Sea Tac Fire Department	(213,386)	(221,407)	(343,637)	(355,495)	(366,161)	(375,829)	(385,977)	(396,389)
Shoreline Fire Department	(376,181)	(380,055)	(580,829)	(600,872)	(618,900)	(635,240)	(652,393)	(670,009)
Snoqualmie Fire Department	(52,033)	(53,702)	(82,646)	(85,498)	(88,063)	(90,388)	(92,829)	(95,336)
South King Fire and Rescue	(772,172)	(787,067)	(1,210,071)	(1,251,827)	(1,289,386)	(1,323,429)	(1,359,165)	(1,395,866)
Tukwila Fire Department	(224,182)	(231,283)	(357,958)	(370,310)	(381,420)	(391,490)	(402,061)	(412,918)
Vashon Fire Department	(129,619)	(129,619)	(180,435)	(186,661)	(192,261)	(197,337)	(202,666)	(208,139)
Woodinville Fire and Life Safety District	(311,139)	(324,180)	(480,561)	(497,144)	(512,060)	(525,580)	(539,772)	(554,347)
Regional Services	(3,826,680)	(4,798,846)	(6,102,144)	(6,478,134)	(6,838,366)	(7,197,262)	(7,578,964)	(7,945,012)
Strategic Initiatives	(674,484)	(867,040)	(1,246,580)	(1,491,275)	(1,253,878)	(1,239,355)	(1,195,153)	(1,114,543)
Encumbrance Carryover	0	0	0	0	0	0	0	0
ALS Salary and Wage Contingency	0	0	(2,104,452)	(2,199,152)	(2,298,114)	(2,401,529)	(2,509,598)	(2,622,530) (e)
EMS 2002-2007 Reserves	(723)	(212,100)	0	0	0	0	0	0 (f)
Disaster Response Contingency	0	0	(3,216,379)	(4,809,156)	(5,085,682)	(5,378,109)	(5,687,350)	(6,014,373) (g)
Prior Disaster Response Underexpenditure	0	0	0	3,216,379	4,809,156	5,085,682	5,378,109	5,687,350 (h)
King County Auditor's Office	0	0	(61,000)	(64,759)	(68,360)	(71,947)	(75,763)	(79,822)
<b>EMS EXPENDITURE TOTAL</b>	<b>(41,368,385)</b>	<b>(43,497,936)</b>	<b>(61,679,170)</b>	<b>(62,813,187)</b>	<b>(63,937,677)</b>	<b>(66,962,294)</b>	<b>(70,106,560)</b>	<b>(74,096,976)</b>

## APPENDIX 1 (cont.)

<b>EMERGENCY MEDICAL SERVICES LEVY FINANCIAL PLAN</b>								
	2006	2007	2008	2009	2010	2011	2012	2013
	Actuals	Estimated	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed
<b>ENDING FUND BALANCE</b>	9,296,940	6,070,111	7,478,574	9,530,365	12,298,857	13,976,201	14,467,537	12,946,087
<b>RESERVES AND DESIGNATIONS</b>								
Encumbrances	(977,521)	(977,521)	(977,521)	(977,521)	(977,521)	(977,521)	(977,521)	(977,521)
Reappropriation	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)	(25,000)
<b>Designations</b>								
Prepayment	0	0	0	0	0	0	0	0
ALS Provider Balances	0	(1,022,900)	(1,022,900)	(1,022,900)	(1,022,900)	(1,022,900)	(1,022,900)	(1,022,900)
ALS Provider Loans	0	0	0	0	0	0	0	0
<b>Reserves for Unanticipated Inflation</b>								
Diesel Cost Stabilization	0	0	(756,000)	(1,512,000)	(2,457,000)	(2,897,541)	(2,933,280)	(1,613,304)
Pharmaceuticals/Medical Equipment	0	0	(230,000)	(506,000)	(828,000)	(1,097,000)	(877,600)	(447,576)
Call Volume/Utilization Reserve	0	0	(244,000)	(488,000)	(732,000)	(1,159,800)	(1,220,000)	(832,000)
<b>Reserves</b>								
Chassis Obsolescence	0	0	(375,000)	(375,000)	(562,500)	(562,500)	(562,500)	(562,500)
Risk Abatement	0	0	0	(565,000)	(565,000)	(565,000)	(565,000)	(565,000)
Millage Reduction	0	0	0	0	(1,000,000)	(1,500,000)	(2,000,000)	(2,500,000)
<b>TOTAL RESERVES AND DESIGNATIONS</b>	<b>(1,002,521)</b>	<b>(2,025,421)</b>	<b>(3,630,421)</b>	<b>(5,471,421)</b>	<b>(8,169,921)</b>	<b>(9,807,262)</b>	<b>(10,183,801)</b>	<b>(8,545,801)</b>
<b>ENDING UNDESIGNATED FUND BALANCE</b>	<b>8,294,419</b>	<b>4,044,690</b>	<b>3,848,153</b>	<b>4,058,944</b>	<b>4,128,936</b>	<b>4,168,939</b>	<b>4,283,736</b>	<b>4,400,286</b>
<b>Fund Balance as % of Revenue</b>	<b>N/A</b>	<b>N/A</b>	<b>6.10%</b>	<b>6.26%</b>	<b>6.19%</b>	<b>6.07%</b>	<b>6.07%</b>	<b>6.06%</b>
<b>EXCESS OVER/UNDER 6% MINIMUM</b>	<b>N/A</b>	<b>N/A</b>	<b>62,895</b>	<b>167,045</b>	<b>126,566</b>	<b>50,561</b>	<b>47,862</b>	<b>45,754</b>

## APPENDIX 2

### 2010 Emergency Medical Services Levy Financial Plan

Attachment J - Emergency Medical Services

	2008 Actuals	2009 Estimated	2010 Adopted	2011 Projected	2012 Projected	2013 Projected
<b>BEGINNING FUND BALANCE</b>	6,242,796	19,686,011	25,929,424	22,942,851	22,968,354	18,741,850
<b>REVENUES</b>						
Property Taxes	64,735,969	67,313,787	62,985,901	63,935,810	66,602,138	68,082,420
State Grants	29,526	0	0	0	0	0
Intergovernmental Payments	0	0	0	0	0	0
Charges for Services	196,351	202,208	196,690	196,690	196,690	196,690
Interest Earning/Miscellaneous Revenue	558,642	593,288	413,200	426,200	529,200	540,200
Other Financing Sources	54,162	3,567	3,210	2,889	2,600	2,340
Transfer from General Fund	375,000	0	0	0	0	0
<b>EMS REVENUE TOTAL</b>	65,949,651	68,112,850	63,599,001	64,561,589	67,330,628	68,821,650
<b>EXPENDITURES</b>						
Advanced Life Support Services	(32,585,628)	(36,221,927)	(35,675,256)	(38,564,700)	(41,125,783)	(44,424,249)
Bellevue Fire Department	(6,567,661)	(7,919,879)	(7,523,036)	(7,967,600)	(8,361,268)	(8,801,636)
King County Medic One	(13,258,356)	(14,331,591)	(14,559,981)	(15,170,631)	(15,911,064)	(16,739,192)
Redmond Fire Department	(5,462,933)	(5,884,688)	(5,642,277)	(5,975,700)	(6,270,951)	(6,601,227)
Shoreline Fire Department	(5,748,326)	(5,796,989)	(5,642,277)	(5,975,700)	(6,270,951)	(6,601,227)
Skykomish/King County Fire District 50	(170,000)	(182,360)	(180,963)	(191,244)	(200,625)	(211,146)
Yashon Fire Department	(1,378,353)	(1,743,560)	(1,880,759)	(1,991,900)	(2,090,317)	(2,200,409)
New/Unis Unallocated			0	(1,035,681)	(1,754,982)	(2,993,266)
Outlying Area Service Levels		(362,860)	(245,963)	(256,244)	(265,625)	(276,146)
Basic Life Support Services	(14,256,340)	(15,281,661)	(15,033,805)	(15,573,249)	(16,056,020)	(16,609,953)
Auburn Fire Department	0	0	0	0	0	0
Bellevue Fire Department	(1,880,258)	(1,986,859)	(1,970,874)	(2,041,594)	(2,104,883)	(2,177,502)
Black Diamond Fire Department	(70,413)	(53,104)	(52,838)	(54,734)	(56,431)	(58,378)
Bothell Fire Department	(320,359)	(338,080)	(335,240)	(347,269)	(358,034)	(370,387)
Duvall Fire Department (FD 45)	(147,291)	(152,964)	(152,081)	(157,538)	(162,422)	(168,025)
Eastside Fire and Rescue	(1,313,186)	(1,373,557)	(1,364,429)	(1,413,388)	(1,457,203)	(1,507,477)
Enumclaw Fire Department	(282,663)	(291,141)	(289,834)	(300,234)	(309,541)	(320,220)
Kent Fire and Life Safety	(1,196,673)	(1,212,191)	(1,201,648)	(1,244,765)	(1,283,353)	(1,327,629)
King County Fire District 2	(372,485)	(393,128)	(390,017)	(404,012)	(416,536)	(430,906)
King County Fire District 20	(166,630)	(175,698)	(174,359)	(180,615)	(186,214)	(192,639)
King County Fire District 27	(93,248)	(97,182)	(96,548)	(100,012)	(103,113)	(106,670)
King County Fire District 40	(304,361)	(200,864)	(199,172)	(206,319)	(212,715)	(220,053)
King County Fire District 44	(322,013)	(294,358)	(292,398)	(302,890)	(312,279)	(323,053)
King County Fire District 47	(22,876)	(23,478)	(23,374)	(24,213)	(24,963)	(25,825)
King County Fire District 49 (S1)	(24,812)	(25,711)	(25,554)	(26,471)	(27,292)	(28,233)
King County Fire District 50	(42,660)	(43,904)	(43,709)	(45,277)	(46,681)	(48,291)
Kirkland Fire Department	(793,023)	(838,397)	(831,434)	(861,267)	(887,967)	(918,602)
Maple Valley Fire and Life Safety (FD 43)	(402,249)	(417,923)	(415,454)	(430,361)	(443,703)	(459,010)
Mercer Island Fire Department	(376,175)	(397,249)	(394,091)	(408,232)	(420,887)	(435,408)
Milton Fire Department	(22,861)	(22,758)	(24,899)	(25,792)	(26,592)	(27,509)
North Highline Fire Department (FD11)	(403,766)	(422,851)	(419,943)	(435,011)	(448,497)	(463,970)
Northshore Fire Department (FD 16)	(321,869)	(339,727)	(336,930)	(349,020)	(359,839)	(372,254)
Pacife Fire Department	0	0	0	0	0	0
Pierce County Fire District 27	(1,500)	(1,500)	(1,500)	(1,554)	(1,602)	(1,657)
Redmond Fire Department	(863,380)	(909,826)	(902,842)	(935,238)	(964,230)	(997,496)
Renton Fire Department	(805,254)	(867,095)	(860,223)	(891,089)	(918,713)	(950,409)
Sea Tac Fire Department	(338,636)	(357,902)	(354,935)	(367,671)	(379,069)	(392,146)
Shoreline - Fire District 4	(585,623)	(618,422)	(613,189)	(635,191)	(654,882)	(677,476)
Snoqualmie Fire Department	(84,677)	(89,948)	(89,144)	(92,343)	(95,205)	(98,490)
South King Fire and Rescue	(1,200,765)	(1,297,811)	(1,287,578)	(1,333,779)	(1,375,126)	(1,422,568)
Tukwila Fire Department	(358,505)	(378,105)	(375,143)	(388,604)	(400,651)	(414,473)
Yashon Fire Department	(44,637)	(320,675)	(185,462)	(192,117)	(198,072)	(204,906)
Woodinville Fire and Life Safety District (FD 36)	(477,339)	(502,310)	(498,412)	(516,296)	(532,301)	(550,666)
Valley Regional Fire Authority	(616,152)	(734,245)	(728,832)	(754,984)	(778,388)	(805,243)
King County Fire District 25		(102,698)	(101,719)	(105,369)	(108,635)	(112,383)
Regional Services	(5,294,071)	(6,087,931)	(6,854,788)	(7,094,938)	(7,385,831)	(7,714,500)
Strategic Initiatives	(591,206)	(1,128,505)	(1,431,856)	(1,512,231)	(1,374,479)	(1,524,704)
EMS Advisory Taskforce			(25,000)	(199,020)	(149,257)	
Encumbrance Carryover	0	0	0	0	0	0
ALS Salary and Wage Contingency	0	0	(1,500,000)	(1,500,000)	(1,000,000)	(1,000,000)
EMS 2002-2007 Reserves	0	(150,000)	(250,000)	0	0	0
Disaster Response Contingency	0	(2,900,000)	(5,000,000)	(5,000,000)	(5,000,000)	(4,500,000)

## APPENDIX 2 (cont.)

### Attachment J - Emergency Medical Services

	2008 Actuals	2009 Estimated	2010 Adopted	2011 Projected	2012 Projected	2013 Projected
Prior Disaster Response Underexpenditure	0	0		5,000,000	5,000,000	5,000,000
Use of Diesel Reserves <sup>1</sup>		(171,903)				
Use of Chassis Obsolescence Reserves <sup>1</sup>		(201,751)				
King County Auditor's Office	0	(125,759)	(68,360)	(91,947)	(95,763)	(99,822)
Use of Designations <sup>2</sup>			(746,509)			
Outstanding ALS Retirement Liabilities					(4,370,000)	
<b>EMS EXPENDITURE TOTAL</b>	<b>(52,727,245)</b>	<b>(61,869,437)</b>	<b>(66,585,574)</b>	<b>(64,536,085)</b>	<b>(71,557,133)</b>	<b>(70,873,227)</b>
<b>ENDING FUND BALANCE<sup>3</sup></b>	<b>19,686,011</b>	<b>25,929,424</b>	<b>22,942,851</b>	<b>22,968,354</b>	<b>18,741,850</b>	<b>16,690,273</b>
<b>RESERVES AND DESIGNATIONS</b>						
Encumbrances	(2,138,516)	(2,138,516)	(2,138,516)	(2,138,516)	(2,138,516)	(2,138,516)
Reappropriation	0	0		0	0	0
Outstanding ALS Retirement Liabilities			(2,185,000)	(4,370,000)	0	0
<b>Designations</b>						
Prepayment	0	0		0	0	0
Program/Provider Balances <sup>4</sup>	(2,945,277)	(3,652,882)	(1,996,306)	(2,244,451)	(1,753,162)	(1,244,882)
ALS Provider Loans	0	437,918	328,439	218,959	109,480	0
<b>Reserves for Unanticipated Inflation</b>						
Diesel Cost Stabilization Reserve	(756,000)	(1,512,000)	(750,000)	(750,000)	(650,000)	(440,000)
Pharmaceuticals/Medical Equipment	(230,000)	(506,000)	(828,000)	(1,097,000)	(877,600)	(447,576)
Call Volume/Utilization Reserve	(244,000)	(488,000)	(732,000)	(1,000,000)	(1,000,000)	(532,000)
<b>Reserves</b>						
Chassis Obsolescence	(375,000)	(173,249)	(360,749)	(360,749)	(360,749)	(210,749)
Risk Abatement	0	(565,000)	(565,000)	(565,000)	(565,000)	(565,000)
Millage Reduction	(4,562,096)	(10,083,308)	(5,041,654)	(6,041,654)	(6,741,654)	(6,941,654)
<b>TOTAL RESERVES AND DESIGNATIONS</b>	<b>(11,250,889)</b>	<b>(18,681,037)</b>	<b>(14,268,786)</b>	<b>(18,348,411)</b>	<b>(13,977,201)</b>	<b>(12,520,377)</b>
<b>ENDING UNDESIGNATED FUND BALANCE</b>	<b>8,435,122</b>	<b>7,248,387</b>	<b>8,674,065</b>	<b>4,619,943</b>	<b>4,764,649</b>	<b>4,169,896</b>
<b>Fund Balance as % of Revenue</b>	<b>12.79%</b>	<b>10.64%</b>	<b>13.64%</b>	<b>7.16%</b>	<b>7.08%</b>	<b>6.06%</b>
<b>EXCESS OVER/UNDER 6% MINIMUM</b>	<b>4,478,143</b>	<b>3,161,616</b>	<b>4,858,125</b>	<b>746,248</b>	<b>724,811</b>	<b>40,597</b>

**Financial Plan Notes:**

<sup>1</sup> The Diesel Cost Stabilization and Chassis Obsolescence reserves were used in 2009 budget to cover higher than anticipated costs in 2008 and 2009.

<sup>2</sup> Appropriations for Designations allows for providers to use prior year balances to cover expenses and gives EMS flexibility to respond to financial needs.

<sup>3</sup> Ending fund balance includes GAAP adjustments for journal entry errors and impaired investments.

<sup>4</sup> The EMS Strategic Plan adopted by council (ordinance 15843) included both program and provider balances. The name of this designation is consistent with plan adopted by ordinance 15843 (page 64). Program/Provider Balances include Designations from 2002-2007 Levy, Reserve for KCM1 Equipment Replacement, and Program Balances for ALS, RSS and SI.

## LIST OF RECOMMENDATIONS & IMPLEMENTATION SCHEDULE

**Recommendation 1a:** The EMS Division, in collaboration with the dispatch agencies, should develop timeliness standards for EMS dispatch services.

**Recommendation 1b:** The EMS Division should also consider incentivizing the implementation of the productivity standards through the EMS Levy funded strategic initiatives or regional initiatives to promote ongoing compliance with the standards, and quarterly reporting of timely performance consistent with ALS Dispatch Performance Standards Strategic Initiative discussed above.

**Implementation Date:** September 1, 2012

**Estimate of Impact:** Development of dispatch call timeliness standards and incentives for implementing productivity standards for EMS dispatch services will ensure EMS dispatches are completed efficiently within reasonable timeframes and will allow benchmarking of King County EMS dispatch agencies to best practices developed by national organizations. Completion of both efforts will aide in assuring taxpayer-supported EMS Levy funds are spent as cost-effectively as possible.

**Recommendation 2a:** The EMS Division should establish a communications protocol with NORCOM and Valley Com to ensure a common understanding of the basis of the annual dispatch costs that are allocated to EMS providers and the annual cost per call.

**Recommendation 2b:** In addition, the EMS Division and ALS Providers should obtain itemized invoices from the dispatch agencies to clearly show expenses that are attributable to ALS and verify that reimbursement requests are justified based on the actual volume and costs of ALS dispatch services.

**Recommendation 2c:** The EMS Division should regularly review dispatch invoices received by ALS Providers to verify that the actual amounts billed are consistent with the dispatch services received, and use this information as part of the dispatch reserve analysis.

**Implementation Date:** September 1, 2012

**Estimate of Impact:** Providing greater transparency and accountability for the cost of dispatch services received by ALS agencies will help assure that taxpayer-supported EMS Levy funds are spent only on allowable costs for EMS dispatch services and that EMS dispatch services are delivered as cost-effectively as possible.

## EXECUTIVE RESPONSE



### King County

**Dow Constantine**

King County Executive

401 Fifth Avenue, Suite 800

Seattle, WA 98104-1818

**206-263-9600** Fax 206-296-0194

TTY Relay: 711

[www.kingcounty.gov](http://www.kingcounty.gov)

Cheryle A. Broom  
King County Auditor  
Room 1033  
C O U R T H O U S E

August 23, 2011

Dear Ms. Broom:

Thank you for your August 10<sup>th</sup> letter and the opportunity to review and comment on the proposed final report of the Emergency Medical Services (EMS) Levy 2011 Financial and Compliance Audit. This is the third of a series of EMS financial reviews to be conducted, as authorized by King County Council Ordinance 15862, on the 2008-2013 Medic One/EMS levy.

The audit assessed the EMS Division's financial practices and compliance with Council-adopted levy policies and financial plan. It also reviewed the costs of EMS dispatch services provided by the two larger dispatch agencies in King County, North East King County Regional Public Safety Communication, referred to as (NORCOM), and Valley Communications (Valley Com) to determine whether the EMS levy can accommodate the increased dispatch costs for the remainder of this levy period.

I am pleased to note that the overall findings of the audit are favorable and supportive. The review demonstrates that the financial operations were managed in accordance with the EMS Levy financial plan and policies; the fee schedules that NORCOM and Valley Com use to allocate costs to user agencies were based on acceptable methodologies; and the EMS Division responded effectively by utilizing designated reserves to cover increased dispatch costs for EMS services in 2010, and establishing a reserve to cover dispatch costs for the remainder of this levy period.

We concur that the two recommendations from the 2010 EMS levy financial are reasonable and feasible proposals, and once implemented will increase the management and transparency of EMS costs.

Specifically, in response to these recommendations, we plan to:

- Consult dispatch agencies to establish acceptable standards, including timeliness if appropriate, for dispatch services;
- Consider methods to promote ongoing compliance;



*King County is an Equal Opportunity/Affirmative Action Employer  
and complies with the Americans with Disabilities Act*



## EXECUTIVE RESPONSE (cont.)

Cheryle A. Broom  
August 23, 2011  
Page 2

- Develop a common understanding of the annual dispatch costs that are allocated to EMS agencies and the allocation methodology;
- Request dispatch agencies provide detailed information related to dispatch invoices to better identify and verify that amounts billed are consistent with the dispatch services received; and
- Establish a practice for reviewing dispatch invoices.

Attachment A identifies the high-level timelines and products connected with our response to the recommendations. Public Health - Seattle & King County, the EMS Division, and EMS stakeholders will begin work on these recommendations immediately. The timely implementation of these recommendations will provide EMS Stakeholders with information needed for making key Medic One/EMS levy decisions during the upcoming EMS levy planning process, slated to begin October 2011.

As always, I appreciate the great level of cooperation and support that occurred between the King County Auditor's Office, Public Health and EMS Division management and staff, and the dispatch agencies. If you have any questions regarding this response, please contact Jim Fogarty, EMS Division Director, at 206-263-8579.

Sincerely,



Dow Constantine  
King County Executive

Enclosure

cc: Ron Perry, Deputy County Auditor  
Susan Baugh, Senior Principal Management Auditor, King County Council  
Brian Estes, Senior Principal Management Auditor, King County Council  
Fred Jarrett, Deputy County Executive, King County Executive Office (KCEO)  
Rhonda Berry, Assistant Deputy County Executive, KCEO  
Carrie Cihak, Director of Policy and Strategic Initiatives, KCEO  
Dwight Dively, Director, Office of Performance, Management and Budget  
David Fleming, M.D., Director and Health Officer, Public Health – Seattle & King County (PHSKC)  
Helen Chatalas, Program Manager, Emergency Medical Services (EMS) Division, PHSKC  
Cynthia Bradshaw, Finance Officer, EMS Division, PHSKC  
Michele Plorde, Program Manager, EMS Division PHSKC  
Caroline McShane, Deputy Director, Finance and Business Operations Division, Department of Executive Services

**EXECUTIVE RESPONSE (cont.)**

Attachment A

<b>Recommendation</b>	<b>Agency Position</b>	<b>Schedule for Implementation</b>	<b>Comments</b>
<p>Ia. The Emergency Medical Services (EMS) Division, in collaboration with the dispatch agencies, should develop timeliness standards for EMS dispatch services.</p> <p>Ib. The Division should also consider incentivizing the implementation of the productivity standards through the EMS Levy funded strategic initiatives or regional initiatives to promote ongoing compliance with the standards, and quarterly reporting of timely performance consistent with Advanced Life Support Services (ALS) Dispatch Performance Standards Strategic Initiative discussed above.</p>	<p>Concur</p>	<p>Review local and national standards currently implemented and potential additional standards in 2011; report results in EMS Division 2012 Annual Report to King County Council due by September 1.</p> <p>The EMS Division will consider the productivity incentive recommendation.</p>	<p>The EMS Division will work with dispatch agencies to establish acceptable standards, including timeliness if appropriate, and develop a reporting schedule.</p> <p>There are a number of factors and considerations associated with the recommendation to incentivize productivity above standard, which require significant analysis, and EMS resources.</p>

**EXECUTIVE RESPONSE (cont.)**

Attachment A

<b>Recommendation</b>	<b>Agency Position</b>	<b>Schedule for Implementation</b>	<b>Comments</b>
<p>2a. The EMS Division should establish a communications protocol with North East King County Regional Public Safety Communications (NORCOM) and Valley Communications (Valley Com) to ensure a common understanding of the basis of the annual dispatch costs that are allocated to EMS providers and the annual cost per call.</p> <p>2b. In addition, the EMS Division and ALS Providers should require additional documentation directly from the dispatch agencies that identifies both annual capital and operating dispatch costs; obtain itemized invoices from the dispatch agencies to clearly show expenses that are attributable to ALS and verify that reimbursement requests are justified based on the actual volume and costs of ALS dispatch services, and properly accounted for in ALS quarterly billings.</p> <p>2c. The EMS Division should regularly review dispatch invoices received by ALS providers to verify that the actual amounts billed are consistent with the dispatch services received, and use this information as part of the dispatch reserve analysis.</p>	<p>Concur</p>	<p>Work collaboratively with dispatch and EMS agencies to review the current cost methodology, invoice practices, and opportunities to better clarify costs; develop potential new invoice practices and/or ways of clearly communicating costs with dispatch agencies in 2012; develop schedule with providers for invoice review beginning 2012 and beyond; report results in EMS Division 2012 Annual Report to King County Council due by September 1.</p>	<p>The EMS Division will work with dispatch agencies and EMS agencies to develop detailed information to be communicated between these groups and develop a common understanding of annual dispatch costs and the cost methodology used to allocate to EMS providers.</p> <p>In addition, the EMS Division will work with dispatch agencies to establish a practice for standardizing the detail that dispatch agencies provide supporting their invoices, and also establish a review and audit schedule for dispatch invoices.</p>