



**Public Health**  
Seattle & King County

HEALTHY PEOPLE. HEALTHY COMMUNITIES.

**Division of  
Emergency Medical Services**



*2002 Strategic Plan Update  
of the  
1998-2003 Emergency Medical Services  
Strategic Plan*

**March 2001**



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## **ACKNOWLEDGEMENTS**

The EMS Division of King County would like to thank the members of the EMS 2002 Task Force who gave their time and talent to assist in the planning of the EMS 2002 Strategic Plan Update.

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## **EXECUTIVE SUMMARY**

### **PLAN OVERVIEW**

For nearly three years, two regional Emergency Medical Service Task Forces have examined the Seattle-King County Regional EMS System. The task forces included elected representatives and appointees from cities and unincorporated areas across the King County region. This group again validated the medical effectiveness and efficiency of the regional EMS model started about thirty years ago in Seattle. The task forces reviewed numerous potential funding options that could provide long-term financial support for this system, and developed consensus around the future funding and operational plans.

The results of this productive regional discussion are summarized in this document, and include several major proposals:

- A six year EMS levy at \$.25 per \$1,000 assessed property value.
- A financial plan that includes funding for anticipated additional 4.3 paramedic units in all regions of King County, in order to keep pace with growing demand for service, driven by an aging population.
- Continuation of support for basic life support services provided by fire departments and regional operational and medical support programs.
- Provision for continued emphasis on EMS strategic initiatives designed to improve efficiency and cost-effectiveness, with prominence on the role of dispatch in managing growth in EMS calls.

### **BACKGROUND**

By the mid-70's the EMS system created by the Seattle Fire Department's Medic One Program had been adapted throughout the region to provide out-of-hospital medical care to the people of King County. Today, the program is a regional medically based, tiered response out-of-hospital system, which depends equally on the citizen involvement as well as the extensively trained firefighter/Emergency Medical Technician and highly specialized Paramedic.

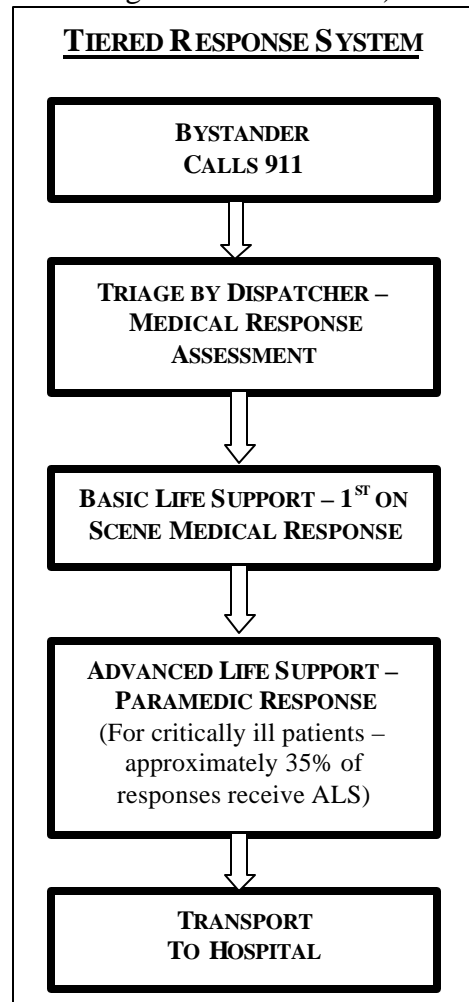
The regional response system of 911, dispatch, basic life support, and advanced life support (paramedic) enjoys an international reputation for innovation and excellence in out-of-hospital emergency care. For the past thirty years, the system has maintained the highest reported survival rates in the treatment of out-of-hospital cardiac arrest patients across the nation. Resuscitation rates averaging 33% for those patients in ventricular fibrillation are typical in this region.

The King County/Seattle Emergency Medical Services system is a regional system based on consistent medical care across all providers. Each paramedic and basic life support provider operates individually; yet, the care provided to the patient is a "seamless" system. Medical training is done on a regional basis to ensure no matter the location

within King County (whether at work, play, at home or traveling between locations) the medical triage and delivery is the same.

The major components of the regional tiered system:

- Universal access to the 911 emergency system.
- Call receipt and triage by professional dispatchers to ensure:
  1. The most appropriate level of emergency medical care is sent to the scene; and
  2. Assistance to callers is provided until the response team arrives.
- Rapid first on scene Basic Life Support response and medical treatment by Emergency Medical Technician (EMT)/firefighters.
- Paramedics, trained through the Paramedic Training program at the University of Washington/Harborview Medical Center, provide Advanced Life Support out-of-hospital emergency medical care for critical or life-threatening injuries and illness (approximately 35% of responses receive a paramedic response).
- Transport to hospital to provide continuous future medical care.



**UPDATE OF THE 1998-2003 STRATEGIC PLAN**

The 1998-2003 Strategic Plan identified three global directives to impact the increasing demand for EMS services in King County.

- Enhance existing programs and add new programs to meet emerging community needs to maintain or improve current standards of patient care;
- Manage the rate of growth in the demand for EMS services; and
- Use existing resources more efficiently to improve operations of the system to help contain costs.

The 1998-2003 Strategic Plan detailed 12 Strategic Initiatives to address the three major directions identified in the Plan. A few of the initiatives are completed and incorporated into ongoing operations (e.g. Regional Purchasing Program and EMS Advisory Committee). For many of the initiatives, final evaluation and measurable outcomes are not yet available. It is anticipated that the 1998-2003 Strategic Plan Initiative outcomes will be completed on the original target timeline of 2003. The EMS Division of King County will continue to provide regular status updates to all participating agencies and the King County Council via the EMS Annual Report.



## **TASK FORCE RECOMMENDATIONS/FUTURE ISSUE CONSIDERATIONS**

### **2002 STRATEGIC INITIATIVES:**

The 2002 Strategic Plan Update continues with the major directions from the 1998-2003 Strategic Plan to impact the growing demand for EMS services by developing initiatives to improve patient care, cost containment, and manage the growth in call volume. Three major program areas have surfaced as appropriate for future initiatives and system improvements

- Dispatch: 911 Dispatch is the access point to EMS services. As such, it plays a critical role in managing the use of the high cost advanced life support resources. Develop initiatives to invest in the training and education of the dispatchers and provide continued quality improvements to enhance the effectiveness and efficiencies of the EMS dispatch.
- Medical/System data collection and evaluation: The continuation of the collection and consolidation of medical data via electronic means will improve the accuracy and completeness of the data, and provide access to the aggregate data by individual provider. This information will enable program medical protocol and operational improvements to be made at both the local and regional level.
- Injury Prevention/Public Education: Continue to invest in public education prevention activities (e.g. fall prevention) to assist in the management of rate of growth in demand for EMS services.

### **BASIC LIFE SUPPORT (BLS):**

Basic Life Support (BLS) or rapid, first-on-scene medical care is provided by firefighter Emergency Medical Technicians (EMTs) employed by 35 fire departments/districts. As the first-on-scene immediate basic life support medical provider, BLS provides advanced first aid as well as Cardio-Pulmonary Resuscitation/Automated External Defibrillation (CPR/AED), and contributes extensively to the success of the EMS system. Currently, BLS is supported by a combination of city and fire district operating revenues supplemented with regional EMS funding.

#### **BLS Recommendation:**

*The EMS 2002 Task Force recommends:*

- *A portion of the EMS regional funding will continue to be allocated to BLS to assure uniform and standardized medical BLS care, and enhance BLS services to reduce the impact on advanced life support resources.*
- *The current BLS allocation formula is a fair and equitable method of distribution of BLS resources.*
- *The funding for BLS distribution will increase by the local-area CPI.*

**ADVANCED LIFE SUPPORT (ALS) (PARAMEDIC):**

Paramedics, trained through the Paramedic Training Program at the University of Washington/Harborview Medical Center, provide out-of-hospital emergency care for serious or life-threatening injuries and illness. As the second on scene for critically ill patients, Advanced Life Support (ALS) provides airway control, heart pacing, administers medicines and other life saving out-of-hospital procedures as expected under the medical supervision of the Medical Director. As of 1999, there are 22 paramedic or ALS units in the wider Seattle-King County region, with 6 ALS units in Seattle and 16 units in the balance of King County.

**Future ALS Unit Recommendation:**  
***Based on***

- *Current and projected call volume,*
- *Population forecasts, and*
- *The anticipated effects from the 1998-2003 Strategic Initiatives aimed at creating efficiencies to slow the growth in demand for EMS services,*

*The 2002 Strategic Plan Update identifies the need for:*

- *4.3 additional or expanded units in 2002-2007 to ensure the consistent high standard of out-of-hospital paramedic medical care in King County.*

*The balance of King County projects 2.8 new or expanded units and the City of Seattle projects 1.5 new or expanded units from 2002-2007.*

Year	New Units	Expand a current unit
2001	.5 (Seattle)	
2002	.5 (Shoreline)	.5 (Evergreen) .3 (Vashon) <sup>1</sup> .5 (Seattle) <sup>2</sup>
2003	1 (Seattle) <sup>2</sup>	.5 (Bellevue)
2004	.5 (SKC M1 Proposed) <sup>2</sup>	
2005		
2006	.5 (SKC M1 Proposed) <sup>2</sup>	
2007		

<sup>1</sup> In 2000, Vashon is currently being funded at .2 of a full unit. Vashon would increase to be a .5 unit in 2002, or .3 increase.  
<sup>2</sup> The South King County and Seattle units may be delayed based on outcomes of the strategic initiatives and the new unit evaluation

ALS is the primary recipient of regional funding and is the first commitment for funding within the EMS system. In the balance of King County (excluding Seattle), ALS regional funding is distributed using an “allocation unit” methodology, which is based on the costs of operating a paramedic unit staffed with two Harborview- trained paramedics.

**ALS Funding Recommendation:**

*The EMS 2002 Task Force recommends:*

- *ALS standard funding for the 2002 funding period be set at 100% of the average provider standard unit cost or \$1,207,354 for a 2-paramedic, 24 hour, full time unit for the first year.*
- *An EMT-P unit and a 2-paramedic, 12 hour, half time unit funding for 2002 be set at 50% of the full time unit or \$603,677.*
- *The annual increase in the funding amount for an ALS unit shall increase by the local-area CPI.*

- ***The funding level will be re-evaluated periodically in the funding period based on sufficient funding available to alleviate any dramatic increase in provider contribution.***

Historically, costs incurred by the providers have increased at a rate higher than CPI due to increases in labor agreements and the rising cost of medical supplies and equipment. Over time costs will shift from the ALS regional funding to the ALS provider agencies if the cost to provide service continues to exceed the CPI inflation. (Assuming a 1% expenditure growth over CPI, the ALS provider contribution portion increases from 0% (\$0) in 2002 to an estimated 4.7% (\$70,000 per unit) by 2007.

### **ALS (PARAMEDIC) DELIVERY IN SOUTH KING COUNTY**

Two cities (Cities of Kent and Federal Way) in South King County have expressed an interest in discussing with King County and other South King County cities and fire protection districts the feasibility of delivering paramedic (ALS) services by means of a consortium of South King County BLS provider agencies.

#### ***EMS 2002 Task Force members agreed***

- ***The two cities may initiate a dialogue with other cities and fire districts in South King County as to the creation of such an entity. However, members stressed that any new entity must be a component of the efficient and integrated countywide EMS system.***
- ***King County will also participate in any dialogue, especially as it relates to any transition from a county-provided service to a sub-regionally provided service.***

### **KING COUNTY REGIONAL PROGRAMS:**

Regional Programs support core services essential to providing the highest quality of out-of-hospital emergency medical care available. Coordination of the balance of King County, excluding Seattle, programs is managed through the Public Health- Seattle & King County EMS Division and includes the following functions:

- Medical Program Supervision
- Basic Life Support EMT basic training, continuing medical education, and instructor training
- Emergency Medical Dispatch training and continuing education
- Critical Incident Stress Management to support public field personnel (EMTs, paramedics, etc.)
- EMS/911 Public Education and Injury Prevention
- EMS data collection, analysis, and evaluation (medical and operational information)
- Paramedic Continuing Medical Education
- Division management and financial oversight/monitoring and Contract administration

**Regional Programs Recommendation:**

***The EMS 2002 Task Force recommends:***

- ***Continuation of the current operating structure of regional programs.***
- ***The annual increase in regional programs funding shall increase by the local-area CPI.***

**2002 FUNDING PACKAGE**

The “Final Report of the EMS Financial Planning Task Force” presented funding options for the EMS 2002 Task Force consideration (as listed below). (For further information on the task force processes please refer to the section titled “Levy History, Task Force Creation, and Governance over the Strategic Planning Process”):

- Paramedic Transport Fees
- Increased King County Current Expense Fund
- Dedicated property tax levy
- Tobacco settlement money

*Paramedic Transport Fees*

All paramedic units, including Seattle, transported 20,615 ALS patients in 1999. Fees are not currently charged for paramedic (Advanced Life Support) transports in King County. There are many issues to be resolved concerning establishing paramedic transport fees in King County. In addition to the administrative and operational issues of implementing billing and collection of paramedic transport fees, several other policies and procedural matters need to be considered including patient access to the system, financial role of paramedic transport fees, and uniform transport delivery across ALS providers. The Health Care Financing Administration (HFCA) is currently negotiating a Medicare Ambulance Fee Schedule, which is anticipated to be completed and implemented during 2001.

**Paramedic Transport Fee Recommendation:**

***The EMS Task Force recommends:***

- ***In light of the many issues to be resolved, to set-aside transport fees as a funding source for the 2002-2007 funding cycle.***
- ***Implementing a study during the next funding cycle to consider the legal, financial, administrative and operational issues of transport fees as adjunct revenue source for future funding.***

*King County Current Expense Contribution*

For the 1997-2001 funding period, the King County Current Expense funded \$375,000 annually to EMS. As the South County provider of ALS service, King County commits to an equitable financial contribution as incurred by the other ALS providers. As such,

King County will commit for the 2002-2007 funding period to utilizing non-levy funds to support the difference between actual operational cost and the funding allocation for South King County Medic One. The total annual commitment will not be less than the current amount of \$375,000.

*Dedicated EMS Property Tax Levy*

The Revised Code of Washington (RCW) 84.52.069 allows jurisdictions to levy a property tax for providing emergency medical services. In King County, the EMS levy is a countywide levy and requires voter approval every levy period. In addition to the King County Council, cities required to approve the ballot proposal prior to placement on the ballot currently include Seattle, Bellevue, Federal Way, Shoreline, Renton, and Kent.

The EMS levy is a regular property tax and is subjected to the growth limitations contained in RCW 84.55. RCW 84.55 limits the rate of growth in EMS levy revenue by inflation (specifically the Implicit Price Deflator) even if assessed values increase at a higher rate.

**Dedicated EMS Property Tax Recommendation:**

***Based on***

- ***Valuing the EMS service as an integrated regional network of basic and advanced life support provided by many agencies,***
- ***An extensive review of alternative funding options done by the EMS Financial Planning Task Force,***
- ***And not finding another stable, long-term funding solution,***

***The EMS 2002 Task Force supports the Financial Planning Task Force option to “Continue with the six year dedicated property tax levy for Advanced and Basic Life Support Services and Regional Services”.***

**2002 FUTURE FUNDING PLAN**

The EMS system is funded by a complex combination of regional and local funding sources. ALS and BLS provider contributions continue to be a vital element of the proposed funding package. Historically, the EMS special dedicated levy has been the primary resource for ALS and Regional programs whereas BLS is supported by a combination of city and fire district operating revenues supplemented with regional EMS levy funding.

**2002 Funding Recommendation:**

***Ongoing stable funding is required to ensure a consistent emergency medical delivery system. Financial projections indicate an EMS statutory levy rate of 25 cents per \$1,000 of assessed value for the 6-year funding period 2002-2007 in combination with provider contributions.***



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## **PURPOSE OF THE PLAN**

The purpose of the 2002 Strategic Plan Update is to update the 1998-2003 Strategic Plan and provide policy and financial direction for the future of the EMS system in King County. The plan contains the recommendations from the EMS 2002 Task Force and reflects collaborative efforts from regional partners public and private, local Advanced Life Support (ALS) and Basic Life Support (BLS) providers, King County Executive Office, and King County EMS division staff. The objectives listed below represent global objectives for the system as a whole to ensure a cohesive, medically oriented, tiered-response, regional system.

### System Objectives

1. Maintain the EMS/Medic One system as an integrated regional network of basic and advanced life support services provided by King County, local cities, and fire districts.
  - Fire fighters, who are trained as Emergency Medical Technicians, will provide rapid, first-on-scene response to emergency medical service calls and deliver immediate basic life support services.
  - Paramedics, trained through the Paramedic Training program at the University of Washington/Harborview Medical Center, provide out-of-hospital emergency medical care for serious or life-threatening injuries and illness. Per prior EMS strategic and master plans, ALS will be most cost effective by delivering on a sub-regional basis with a limited number of providers.
  - Regional programs emphasize uniformity of medical care across jurisdictions, consistency in excellent training and medical quality assurance.
2. Make regional delivery and funding decisions cooperatively and balance the needs of Advanced Life Support (ALS), Basic Life Support (BLS), and regional programs from a system-wide perspective.
3. Develop and implement strategic initiatives to provide greater efficiencies within the system. The functions of strategic initiatives are to:
  - Maintain or improve current standards of patient care,
  - Improve the operational efficiencies of the system to help contain costs, and
  - Manage the rate of growth in the demand for EMS services.

The King County/Seattle Emergency Medical Services system espouses the provision of consistent and competent medical care across all providers. Each ALS and BLS provider operates individually; yet, the care provided to the patient is a “seamless” system. Medical training is done on a regional basis to ensure no matter the location within King County, at work, at home, at play, or traveling between locations, the medical triage and delivery is the same.



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## **REVIEW OF THE 1998-2003 STRATEGIC PLAN**

The 1998-2003 Strategic Plan identified four directions for the EMS system to undertake in the 6-year period. These were:

- Enhance existing programs and add new programs to meet emerging community needs to maintain or improve current standards of patient care;
- Manage the rate of growth in the demand for EMS services;
- Use existing resources more efficiently to improve operations of the system to help contain costs;
- Establish an EMS Advisory Committee to assist the EMS Division with implementation of the 1998-2003 Strategic Plan.

When the November 1997 EMS levy (funding package for the 1998-2003 Strategic Plan) failed to receive 60% approval, a revised levy was put before the voters in February 1998 (see the section titled “Levy History, Task Force Creation And Governance Over The Strategic Plan Process”). The February 1998 levy was passed by voters and shortened the funding period from 6 years to 3 years (1999-2001).

The 1998-2003 EMS Strategic Plan detailed twelve strategic initiatives to address the three major directions identified in the plan. The Strategic Initiatives identified in the 1998-2003 Strategic Plan are mid-point in the original 6-year process. Some of the initiatives are completed and incorporated into ongoing operations (e.g. Regional Purchasing Program and EMS Advisory Committee). For others, final evaluation and measurable outcomes are not yet available.

It is anticipated that the 1998-2003 Strategic Plan Initiative outcomes will be completed on the original target timeline of 2003. The EMS Division via the “EMS Annual Report to King County Council” will continue to update all participating agencies and the King County Council on the status and outcomes of the 1998-2003 Strategic Initiatives.

The following table shows the objective of each strategic initiative in relation to the overall directions of the 1998-2003 Strategic Plan.

OPERATIONAL EFFICIENCIES/ COST CONTAINMENT	MAINTAIN OR IMPROVE PATIENT CARE	MANAGE THE RATE OF GROWTH FOR EMS CALLS
Regional Purchasing Program	Dispatch Referral (Telephone Referral Project)	Dispatch Referral (Telephone Referral Project)
Alternative Transport (Woodinville/ADAPT)	Alternative Transport (Woodinville/ADAPT)	
New Paramedic Vehicle Replacement	Public Education (Falls for the elderly and motor vehicle accidents)	Public Education (Falls for the elderly and motor vehicle accidents)
ALS Dispatch Criteria Guidelines		
Regional Data Collection Project		
EMS Advisory Committee		
Quality Management		
Strategic Planning for 2002 to 2007		

Table B-1 in Appendix B shows the status of each initiative as of December 2000. Below (in alphabetical order) is a listing of each initiative, brief description, and findings to date.

*ALS Response and Dispatch Triage Criteria*

Revision of the ALS dispatch guidelines was established to impact the EMS system in three areas:

- (1) Reduce unnecessary demand for ALS services,
- (2) Provide the best appropriate patient care, and
- (3) Increase the capacity of the current units by decreasing the growth of calls and postponing the need to add new units.

Dispatch revision program included reviewing and improving dispatch coding and data collection methods at dispatch centers and funding Computer Aided Dispatch (CAD) enhancements; an extensive review of data and revising the Criteria Based Dispatch (CBD) Guidelines; training providers at all levels, including an enhanced training curriculum and quality improvement program; and evaluating the impact on the EMS system. Initial evaluation is anticipated in summer 2001.

### *Alternate Transport Destination Policies (Woodinville and ADAPT)*

The purpose of this initiative is to identify a protocol for the transport of a subset of patients to an urgent care clinic instead of an emergency department. The premise is that some patients who are of low-risk and require a minimal level of medical care can receive appropriate care at a local clinic. This practice is medically safe, cost-efficient and acceptable as a high standard of care by patients.

The Woodinville project implemented a two-year pilot to investigate the outcome of transporting a subset of low-risk BLS patients to Evergreen Urgent Care Clinic. The final report concluded that the program safely identifies select BLS patients for clinic transports, and produces a level of patient satisfaction for clinic treatment that is as favorable as emergency department treatment. Preliminary data suggests that in the most efficient form (i.e. the clinic is in closer proximity to the patient than the hospital) the BLS unit was back in service 50% faster than transporting to the hospital. The department has incorporated the protocols into their assessment of patients.

Appropriate Destination and Patient Treatment (ADAPT) is currently conducting a similar six-month pilot project to investigate the outcome of transporting a subset of low-risk BLS patients to multiple clinics in the Kent and Maple Valley Fire Department service areas. Preliminary data strongly supports the findings in the Woodinville area.

### *Dispatch Referral Network for Appropriate Calls*

Some EMS responses do not require a rapid response by BLS units, and in some cases, a response is provided because no lower level of medical aid is available in the EMS system. The Telephone Referral Pilot Project was developed to address this need and will potentially assist in reducing the rate of growth for BLS calls and provide the best appropriate patient care. A six-month pilot was implemented in the Eastside Communications Center service area and examined the effect of triaging an identified subset of low risk calls to a designated 24-hour telephone referral nurse line. The final report for the pilot identified major findings including 1) no adverse outcomes for transferred patients, 2) a lower than expected transfer of calls to the referral line, and 3) a high level of patient satisfaction with the option to speak with a nurse.

### *EMS Advisory Committee*

The EMS Advisory Committee was implemented in direct response to the 1998-2003 Strategic Plan. The EMS Advisory Committee provides a framework for active participation to improve communication and consensus between ALS and BLS local providers, health agencies, and the EMS Division to ensure uniformity of medical care across jurisdictions.

### *EMS Regional Purchasing Program*

To improve system operational efficiencies and cost containment, the Regional Purchasing Program maximizes the purchasing power of EMS providers in order to obtain better pricing for medical supplies and equipment. During calendar year 2000, estimated total savings for all agencies was \$150,000 based on comparing total expenditures at contract prices to the catalogue price.

### *New Vehicle Replacement Program*

This program reviewed of the extending the useful life of a medic unit from 3 years to 5 years to provide greater efficiencies and potential cost containment. Discussions have included intensive repair programs, chassis replacement options, and use of large vehicles. Initial findings concluded that extension of medic units from 3 to 5 years would not be in the best interest of patients and paramedics due to safety concerns. The oversight committee recommended that individual agencies create programs that address their specific agency needs and allow for optimal extension of vehicle use without compromising safety. A methodology for estimating future needs of vehicles is currently being evaluated.

### *Public Education on Use Of 911*

In June 1999, a study comparing urgent and less-urgent use of EMS was completed in an effort to characterize the people and situations where non-urgent calls occurred. The study revealed a less-than-expected level of inappropriate use of 911 in King County for medical conditions. The study concluded that a campaign to reduce inappropriate use for this population would be difficult and expensive. It further recommended that small public education campaigns targeting certain populations and certain types of injuries, such as falls and motor vehicle accidents would be most beneficial.

As a result of the finding of the Telephone Referral Project, it has been concluded that a better approach to these non-urgent calls is to encourage citizens to call 911. This allows professional dispatchers to screen and triage these calls appropriately to the proper resource within the system. Continued efforts to educate the public could have multiple outcomes such as public awareness of EMS, improved public relations and injury prevention strategies.

### *Quality Management Program*

Most EMS providers have established some aspects of a medical quality improvement program. The regional effort is being organized by the EMS Division to assist in the development and implementation of a countywide EMS Quality Management Plan. Several regional medical care quality assurance initiatives are currently in place and the EMS Division has created a document (EMS Quality Management Plan) describing the specific programs. These activities will be evaluated by the EMS Division, in cooperation with ALS and BLS agencies, to identify and enhance the process of medical

quality improvement in EMS countywide. It is the intent of the EMS Division to build on these structures and establish a standard that can benefit the entire county.

*Regional Data Collection Project*

The King County Regional Data Collection Project is designed to allow EMS providers to complete an electronic version of the Medical Incident Report Form and electronically transfer directly to a regional database. The collection and consolidation of patient care and response data via electronic means will improve the accuracy and completeness of the data, provide access to the aggregate data by individual service providers, allow for more intensive analysis of medical and operational performance data, and facilitate the assembly system and evaluation of reports.

*Strategic Planning for Next EMS Levy Period*

Update the 1998-2003 Strategic Plan, make recommendations about the operating and financial strategic initiative aspects of the regional EMS system, and recommend a property tax levy rate for the next EMS levy period. The 2002 Strategic Plan Update is the outcome of this process.



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## **EMS SYSTEM AND OPERATION DESIGN**

### *Medical System and Funding Background*

The past thirty years has seen the development of a regional EMS system in the greater Seattle/King County metropolitan area. This system was based on the model developed in the City of Seattle in the late 1960's for delivering pre-hospital emergency care. Pioneered by Leonard A. Cobb, M.D., and Gordon Vickery, Chief, Seattle Fire Department, the countywide Emergency Medical Services (EMS) program now includes a number of major components in a medically oriented, tiered response system. These major components are highlighted below and discussed in detail in subsequent pages.

- Universal accesses to the system to all that call the countywide 911 emergency telephone number.
- Call receipt and triage by dispatchers to ensure that (1) the most appropriate levels of emergency medical providers are sent to the scene, and (2) assistance to callers by dispatchers is provided until the response team arrives (including delivering phone instructions in CPR).
- Rapid response and treatment at the scene by Emergency Medical Technician (EMT)/firefighters and, when appropriate, by paramedic crews.
- Private ambulance companies employ integral participation of EMTs in continuing patient care and transport.
- Physicians, who provide legal medical authority, uniform medical oversight and medical direction to the EMS system.
- Strong ties with local hospitals; especially those emergency department physicians and staff serve as medical control points for paramedic units.
- Systems approach which emphasizes excellent training, effective research, and quality assurance as the key to successful pre-hospital patient care.

The EMS Division of King County system has adapted the Seattle Fire Department's Medic One Program model to accommodate the demographic, geographic and jurisdictional uniqueness of King County. The City of Seattle and the EMS Division of King County system function collaboratively and coordinate services across jurisdictional boundaries. However, the two programs operate under separate administrative structures.

The Revised Code of Washington (RCW) 84.52.069 allows jurisdictions to levy a property tax for the purpose of providing emergency medical services. Specifically, RCW 84.52.069:

- Allows a jurisdiction to impose an additional regular property tax up to \$0.50 per \$1,000 of assessed value;
- Allows for either a 6-year, 10-year, or permanent levy period;
- Requires that voter turnout must exceed 40% of the prior general election with an approval rate of 60% or greater; and

- Requires the county as well as cities with populations in excess of 50,000 to approve the levy proposal prior to placement on the ballot. In King County, the EMS levy is a countywide levy and requires voter approval every levy period. In addition to the King County Council, cities required to approve the ballot proposal prior to placement on the ballot currently include Seattle, Bellevue, Federal Way, Shoreline, Renton, and Kent.

Emergency Medical Services (EMS) in both Seattle and King County has been primarily supported by an EMS levy since the first levy in 1979, with subsequent levies in 1985, 1991, and 1998. The EMS Division of King County uses the EMS levy funds to primarily support paramedic services, and regional EMS programs, and to partially support fire based basic life support services. Other county resources provide approximately 3% of total revenue needed to fund the EMS Division of King County. Seattle utilizes EMS levy funds raised to help support the spectrum of EMS services within the city.

#### *Statewide Trauma Care System*

The EMS system in King County operates as a constituent of the statewide Emergency and Trauma Care System described in RCW 18.71.200 - 18.71.215, Chapters 18.73 Sections 70.68 and 70.24. This legislation is administered through the Washington Administrative Code (WAC) 246-976: Emergency Medical Services and Trauma Care System. Within the state system, King County is designated as the “Central Region”. All advanced life (paramedic) support and basic life support personnel in Seattle and King County currently meet or exceed state EMS certification standards defined in RCW and WAC. The EMS Division in King County is an active participant in the Central Region EMS and Trauma Council and supports the county’s trauma registry and other council activities.

#### *EMS in the Balance of the County, excluding Seattle*

*Note: the remainder of this section pertains only to the balance of the County portion of the regional system.*

EMS in the balance of King County covers 19 cities and 16 fire districts throughout King County, and includes approximately 1,000 square miles of urban, rural, and wilderness areas, serving over one million residents and 65,000 businesses. Geographic barriers, distance, time and traffic challenge EMS response times, transport times and proximity to hospital services. Currently, the EMS Division in King County provides medical oversight to the system, helps coordinate regional services, and administers EMS levy funds under contract with 35 fire-based basic life support (BLS) providers and five agencies who provide paramedic or advanced life support (ALS) services. The five ALS agencies in the balance of the County include Shoreline Fire Department (Shoreline Medic One), Bellevue Fire Department (Bellevue Medic One), Public Hospital District #2 (Evergreen Medic One), Public Health – Seattle & King County (King County Medic One) and Vashon/Maury Fire and Rescue.



### *Tiered Response System*

The regional tiered response system of 911, dispatch, BLS, and ALS enjoys an international reputation for innovation and excellence in out-of-hospital urgent and emergent care. For the past thirty years, the system has maintained the highest reported survival rates in the treatment of out-of-hospital cardiac arrest patients across the nation. Resuscitation rates averaging 16% for sudden cardiac arrest patients and 33% for those patients in ventricular fibrillation are typical in this region.

Among the keys to this success is the integration of services into what the American Heart Association recognized in 1991 as the “Chain of Survival.” This concept stresses a systems approach to successful treatment of cardiac arrest by identifying the interdependence of four essential links that are directly tied to cardiac patient survival and health status. These links include early access to the EMS system through the 911-emergency telephone number; early CPR (with instructions provided by dispatchers, or provided by a trained citizen); early defibrillation by EMT/firefighters; and early paramedic care. The success of the system is testimony to the commitment of all participants to providing high quality services to the residents of Seattle and King County.

### *Medical Control*

The tiered response system is based on a medical model that operates under the legal authority of the Medical Program Director (MPD). The MPD is responsible for setting training standards, medical control supervision, and quality review of the County’s Emergency Medical Technicians (EMTs) and paramedic providers. The MPD delegates medical authority to other physicians who provide medical control to specific Medic One programs.

Paramedics and EMTs, trained in defibrillation, operate as extensions of the physician and they are legally authorized to provide care on a medical director’s license. Other major functions performed by the Medical Program Director include establishing patient care guidelines for treatment, triage, and transport, establishing and supervising training and continuing education programs, and recommending certification, recertification, and decertification of EMS personnel.

### *Dispatch*

A key component of the tiered response system is the utilization of Criteria Based Dispatch Guidelines. When a 911 medical emergency call is received by a dispatch center (see Map B4 – Appendix B), professional dispatchers screen and triage the call for the most appropriate resource within the system. Trained dispatchers use a series of pre-defined medical criteria for triaging various types of medical problems. If the call meets specific pre-determined low-risk guidelines not needing a rapid response, the call is transferred to a 24-hour telephone referral nurse line. If the call is determined to need immediate medical aid, the nearest fire department BLS unit is immediately dispatched to

the scene. BLS is provided by one of the 35 fire service agencies serving the cities and unincorporated King County. This response may involve an engine company, or a BLS aid unit. If dispatchers determine the patient’s symptoms meet specific dispatch guidelines identifying that the medical emergency is potentially life threatening, then an advanced life support team of paramedics is also dispatched to the scene. Currently, about one-third of all EMS responses in the EMS Division of King County receive both a BLS and an ALS response.

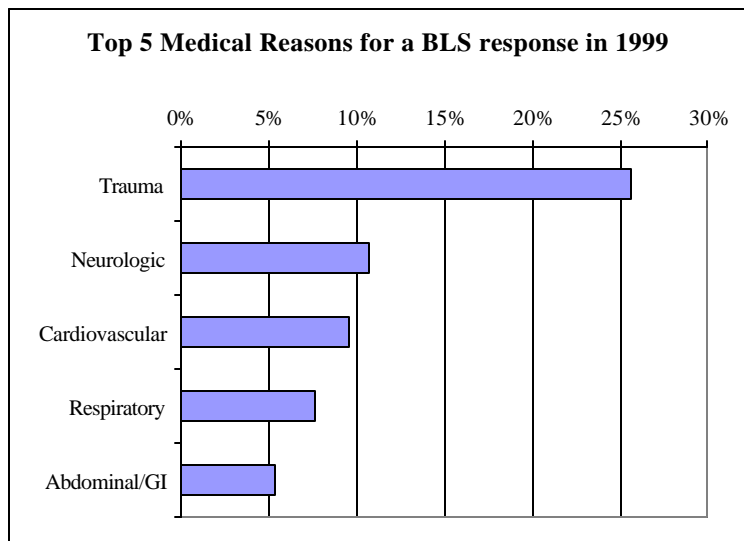
Bystander CPR is a critical component of the tiered response system, whether performed with the assistance of a dispatcher or done on the basis of previous training. While most BLS providers in the EMS Division of King County are able to reach the scene within an average of four-seven minutes, bystanders can improve patient outcomes by initiating CPR as soon as possible. The regional EMS system has been very successful in training citizens of all ages in CPR and has successfully incorporated “dispatcher assisted CPR” into dispatch training.

The regional structure of the King County program and the tiered response system of resource deployment have made it possible to respond to growing demands for EMS services. This is also made possible by uniform training and continuing education programs, uniform dispatch guidelines, and a strong commitment among the 35 EMS providers serving the county to cooperate and coordinate their service delivery methods.

*Basic Life Support Services (BLS)*

Basic Life Support Services are provided by approximately 3,500 EMT/firefighters employed by 35 different fire-based agencies throughout the County (see MapB-5, Appendix B). EMT/firefighters receive 120 hours of basic training and hospital experience with additional training in cardiac defibrillation (electrical shocks given to restore a heart rhythm). EMT/firefighters are certified by the state of Washington, which also requires ongoing continuing education to maintain certification.

BLS teams are dispatched to medically related calls to the EMS system. These fire department based units typically arrive on the scene within four to seven minutes after dispatch. In 1999, EMTs responded to more than 142,300 calls countywide, of which 56,000 occurred in the City of Seattle and 86,300 in the balance of the County.

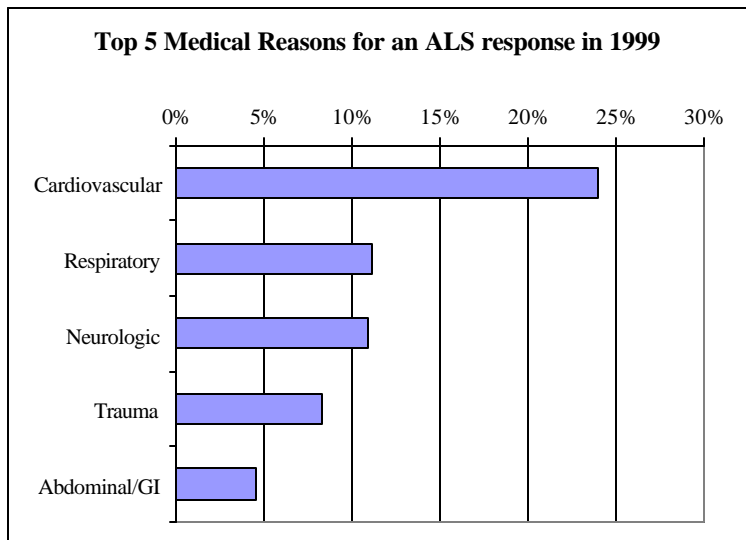


*Advanced Life Support Services (ALS)*

All paramedics in King County are trained through the Paramedic Training Program at the University of Washington/Harborview Medical Center (HMC) to provide advanced emergency medical care to patients with serious or life threatening illness or injury. They receive nearly 3,000 hours of training provided by leading physicians in emergency medicine, anatomy and physiology, pharmacology, and other subjects.

In 1999, there were 22 paramedic or ALS units in the wider Seattle-King County region, with six ALS units in Seattle and 16 units in the balance of King County (see Map B-2, Appendix B). The paramedic program includes a variety of staffing configurations, in keeping with different geographic and demographic patterns. Eleven ALS units in the County are two-paramedic units – and operate 24 hours a day; three additional units are two-paramedic units – and operate 12 hours a day during peak workloads. The 12-hour units are effective in suburban areas with rapidly growing workloads and long response times, but which have not yet grown busy enough to warrant a full-time paramedic unit. These units can respond to over 60% of the workload occurring in a 24-hour period. In addition, there are two EMT/paramedic (EMT/P) units staffed by one EMT/firefighter and one paramedic. EMT/P units are deployed in the more outlying areas of King County where response times for suburban-based units are typically long. When necessary, two-paramedic units back up these units, and specific dispatch criteria exist to help send the additional paramedic unit whenever needed.

In 1999, 35% or 49,800 calls for emergency medical care received an Advanced Life Support response, 19,690 calls occurred in the City of Seattle, with the remaining 30,120 calls in the balance of the County.



*Transport Services*

As stated above, medical emergency calls to 911 receive a BLS response and 35% receive an ALS response as well. However, not all calls require a transport, and if one is needed, there are varying methods employed to accomplish this. Paramedic units transport patients whose conditions or circumstances require advanced life support and stabilization from the field to the hospital. These patients frequently need monitoring or continuing care en route because they are medically unstable.

BLS providers have the local option to transport by either EMTs employed by private ambulance companies or by the provider’s BLS unit. Many jurisdictions use private

ambulance companies for the majority of their BLS transports. Historically, private ambulance transport companies directly bill the patient's health insurance for services rendered.

Airlift Northwest -a not-for-profit service - provides ALS air transport to critically ill and injured patients. Air transports are used primarily in situations where ground transport times are too long for critically ill patients.

#### *Private Ambulance Services*

Private ambulance companies operating in King County employ over 260 Washington State certified EMTs. Privately employed EMTs receive the same EMS training and continuing education as EMT/firefighters. The primary role of private ambulance companies in the EMS system is for BLS transportation. In 1999, private ambulance companies transported 46,033 BLS patients. In many jurisdictions throughout the county, the role of private ambulance companies for BLS transports has fostered better utilization of important publicly funded EMS resources.

#### *Regional Services*

Regional coordination of the county portion of the EMS system is administered through the EMS Division of the Seattle/King County Department of Public Health. The Division is responsible for the following regional EMS functions:

- **Administration**  
Provides administration for all EMS programs, including ALS/BLS contract administration, financial oversight and monitoring, and division management to support ALS, and BLS in providing the highest quality of out-of-hospital emergency medical care.
- **BLS training**  
BLS Training provides Emergency Medical Technician (EMT) and Defib basic training, and develops and administers Competency-Based Training (CBT) continuing education, and EMT/CBT Instructor training to a total of 350 instructors and 3,500 EMTs. The KC EMS Training Section serves as the liaison with the Washington State Health Department for EMT certification and re-certification.
- **Community Programs/Education**  
Community Programs/Education provides Emergency Medical Dispatch (EMD) training and continuing education to 175 dispatch students from seven dispatch agencies. Also provides critical incident stress management to an average of 50 incidents per year to public field personnel (police, fire, EMS, etc.), and CPR and AED training to 20,000 students on average per year. Injury prevention and education creates public awareness and targets appropriate audiences of the high-risk

EMS injuries related to age and activities. Injury prevention is partially funded by trauma grants.

- EMS system data management and strategic initiatives  
EMS data management and strategic initiatives works closely with 35 Fire Departments/Districts, 5 Paramedic providers, and other health care organizations to provide quality data for purposes of long-term planning, EMS system monitoring, and program evaluation. Other areas include overseeing data Medical Incident Report Form (MIRF) collection, data analysis, and EMS reporting, providing computer network administration, and management oversight for 1998-2003 Strategic Initiatives.
- Regional medical controls  
Regional medical controls provide quality medical assurance and oversight, assist with paramedic continuing education, and medical risk management (provided for 142,300 calls in 1999).
- Emergency Preparedness for the Health Department and CPR/AED training for King County Employees  
These programs support King County emergency preparedness and employee CPR/AED training. Currently, the King County Current Expense (CX) is providing funding for these programs.



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## **LEVY HISTORY, TASK FORCE CREATION AND GOVERNANCE OVER THE STRATEGIC PLAN PROCESS**

Emergency Medical Services (EMS) in King County has been primarily supported by an EMS levy since the first levy in 1979, with subsequent levies in 1985, 1991, and 1998. In November 1997, the King County EMS levy only received a 56% “yes” vote (state law requires a super-majority or 60% “yes” vote to authorize). In February 1998, the voters overwhelmingly passed (81%) a three year regular levy at \$.29 per \$1,000 of assessed value (i.e. in 1998 a property assessed at \$200,000 was levied \$58 = 200,000/1,000 \*.29). The current levy expires in December of 2001.

Following the failure of the November 1997 levy, King County Ordinance 12849 created the EMS Financial Planning Task Force (FPTF). Membership on FPTF included representatives from regional and local government, suburban cities, fire districts, and citizens from unincorporated King County. The FPTF was charged with task of presenting to King County Council “an analysis of long term funding alternatives that would allow the County to reduce its reliance on property tax levies to support EMS”.

The Financial Planning Task Force submitted their final report to King County in September 1999. The report included recommendations on improvement in oversight and governance measures, performance tracking, and efficiency initiatives.

The FPTF reviewed an extensive range of funding sources as alternatives to the historical levy funded source. The major obstacle identified was the need to seek new or different taxing authority from the state legislature for those funding options. It was the consensus of the task force that that was unlikely to occur.

### Options studied

- Included several taxing sources: dedicated sales tax, E-911 telephone excise tax, liquor tax, insurance premium tax, business & occupation (B&O) tax, utility taxes, payroll taxes and variations of a regional property tax.
- Other sources of funding included funding from King County CX, subscription service fee, DUI/Moving violations fee, and charging a fee for transports.

The group did not come to consensus on a single funding option, instead the Financial Planning Task Force presented to King County Council in their final report 4 funding options (the first 4 bulleted below) and a fifth (last bulleted option) was added during Council deliberations.

- Continue with the six year dedicated property tax levy for Advanced and Basic Life Support Services and Regional Services.
- Continue with a permanent dedicated levy for EMS to fund Advanced and Basic Life Support Services and Regional Services.

- Continue with a six year dedicated property tax levy for Advanced and Basic Life Support Services and fund Regional Services from either King County Current Expense Fund or transport fees.
- Fund Advanced Life Support Services out of the growth in County Current Expense Fund property tax revenues with existing property tax authority; fund Regional Services through imposition of paramedic transport fees; and, fund Basic Life Support Services through a reduced, dedicated levy for EMS. (Note: Regional Services could be funded through an additional incremental increase in Current Expense property taxes.)
- Possible use of tobacco settlement money for the funding of emergency medical services.

(Please refer to the section titled “Financial Plan/Forecast” for further information on the 2002 funding package).

In September 1999, King County Motion 10779 adopted the Final Report of the EMS Financial Planning Task Force. In addition, the King County Council created a new EMS 2002 Task Force charged with the goal of developing interjurisdictional agreement on an updated EMS strategic plan and financing package for the next funding period starting in 2002. In addition, per Motion 10779, the 2002 EMS Task Force is directed to:

- Review progress in implementing the current strategic plan initiatives and original task force recommendations and report findings to County and Cities.
- Provide oversight and direction on development of the strategic plan update with support from King County EMS division, EMS Advisory Committee, and Financial Staff Team.
- Recommend an updated EMS strategic plan and financing proposal to the County and Cities with populations greater than 50,000 no later than March 31, 2001.

The EMS 2002 Task Force included representatives from King County, local governments, fire districts, and suburban cities. The 2002 Strategic Plan Update is the outcome of this task force.



**DEVELOPMENT OF 2002 STRATEGIC INITIATIVES**

During the 1998-2003 strategic planning process, three major on-going general directives were identified:

- Enhance existing programs and add new programs to maintain or improve current standards of patient care;
- Manage the rate of growth in the demand for EMS services; and
- Use existing resources more efficiently to improve operations of the system to help contain costs.

The 2002 Strategic Plan Update recognizes that before new detail ideas are developed and the process charted, the current 1998-2003 Strategic Plan Initiatives must be completed, evaluated, and outcomes measured. The outcomes from the current initiatives provide the inspiration for new innovative approaches to continue to address the issues of improving or maintaining patient care, cost containment, and management of the rate of growth in call volume. Three general areas have surfaced as the focus of the 2002-2007 initiatives: Dispatch, Data Collection, and Injury Prevention/Public Education.

- Dispatch: 911 dispatch is the access point to EMS services. As such, it plays a critical role in managing the use of the high cost advanced life support (paramedic) resources. Invest in the training and education of the dispatchers to enhance the effectiveness and efficiencies of the EMS dispatch. Provide additional dispatch quality improvement and “best practice” analysis to encourage additional system process improvements.
- Data Collection and Update: The continuation of the collection and consolidation of data via electronic means will improve the accuracy and completeness of the data, and provide access to the aggregate data by individual provider. This information will enable program improvements to be made at both the local and regional level.
- Injury Prevention/Public Education: Continue to invest in public education prevention activities (e.g. fall prevention) to support in the management of rate of growth in demand for EMS services.

<b>Strategic Initiative Costing</b>							
<b>In thousands (000s)</b>							
	2002	2003	2004	2005	2006	2007	02-07 Total
EMS Data Collection	\$ 185	\$ 100	\$ 50	\$ 51	\$ 53	\$ 54	\$ 493
Injury Prev./Pub. Ed.	\$ 35	\$ 35	\$ 36	\$ 37	\$ 38	\$ 39	\$ 220
Dispatch	\$ 230	\$ 232	\$ 223	\$ 231	\$ 243	\$ 237	\$ 1,396
<b>Total for 02-07:</b>	<b>\$ 450</b>	<b>\$ 367</b>	<b>\$ 309</b>	<b>\$ 319</b>	<b>\$ 334</b>	<b>\$ 330</b>	<b>\$ 2,109</b>



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### **ADVANCED LIFE SUPPORT (PARAMEDIC SERVICES)**

The King County portion of the regional EMS system has historically emphasized adding advanced life support (ALS) paramedic services in order to maintain adequate paramedic service levels in the face of both an overall population increase and an aging population. The last 24-hour paramedic unit was added in 1996 in Kent. In 1997, two 12-hour, peak volume, paramedic units were added in Bothell (Evergreen Medic 47) and the North Bend area (Bellevue Medic 3).

There are currently six paramedic providers in the Seattle-King County region. These providers include Seattle Medic One, Shoreline Medic One, Evergreen Medic One, Bellevue Medic One, King County Medic One, and Vashon-Maury Medic One. A summary of the addition of paramedic services in King County (outside Seattle) in the past ten years is presented below.

<b>HISTORY OF IMPLEMENTATION OF NEW UNITS 1992-2001</b>	
Year	Description of Medic Addition
1991	None
1992	Bellevue Medic One EMT/P unit for North Bend King County Medic One full-time unit in Kent
1993	Evergreen Medic One EMT/P unit added for Woodinville-Duvall area
1994	None
1995	None
1996	King County Medic One full-time unit in Kent
1997	Bellevue Medic One 12 hour unit in Issaquah area Evergreen Medic One 12 hour unit for Bothell area
1998	King County Medic One 12 hour unit in Black Diamond
1999	None
2000	None
2001	None

These agencies currently operate 16 paramedic units, with several variations in paramedic service, including 24-hour service, EMT-Paramedic service and 12-hour peak workload service (see Map B2 – Appendix B).

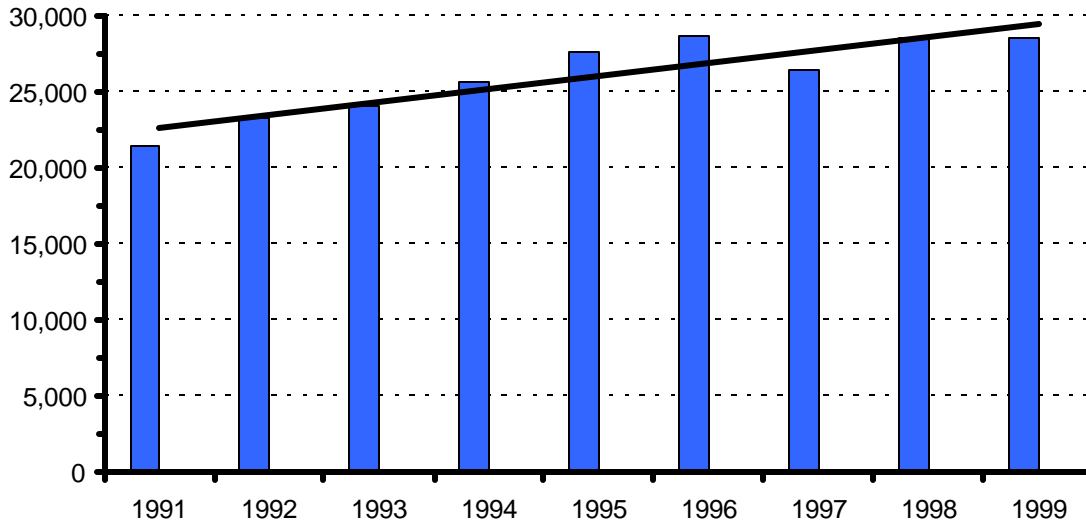
For purposes of this report, a "full paramedic unit" is defined as a vehicle staffed 24 hours per day by a crew of two Harborview-trained paramedics. Full paramedic units are funded at 100% of the standard funding amount.

An "EMT/Paramedic unit" is defined as a unit staffed 24 hours a day with one emergency medical technician trained in defibrillation (EMT-D) and one Harborview-trained paramedic, and operated in outlying areas of the county. EMT-P units are funded at 50% of the standard funding amount.

A "12-hour unit" is defined as a vehicle staffed 12 hours (peak workload time period) of the day by a crew of two Harborview-trained paramedics. 12-hour paramedic units are funded at 50% of the standard funding amount.

In the past nine years, the number of ALS (paramedic) patients in King County has increased from 21,412 to 28,337 in 1999 (the last complete year for which we currently have complete data), an overall increase of over 32%. This growth is illustrated in the following chart depicting annual changes, and including a nine-year linear trend line.

**Paramedic Responses in King County  
1991-1999**



The annual rate of growth during this period has averaged about 4% per year, with annual increases ranging from 8.7% to -7.6%. As the chart illustrates, growth was steady and continuous from 1991-1996, decreased in 1997, and then recovered to 1996 levels in 1998 and 1999. This overall pattern of increased growth punctuated with lulls, and then followed again by continued increases in paramedic responses has been previously observed historically in this region.

*Factors for Growth in Paramedic Service*

The projection of future paramedic service needs was one of the most important recommendations and most discussed topics reviewed by the EMS 2002 Task Force. Paramedic services are currently largely supported by the EMS levy. Since a multiple-year-funding package was being proposed, it was critical to have solid projections of when additional paramedic services would be needed in order that those costs be factored into the EMS financial plan. Underestimating the need for future paramedic services could weaken the level of care provided to citizens. Overestimating the need for paramedic services could needlessly increase costs. These projections also needed to include any additional demand created by an aging population. Capital costs for paramedic vehicle replacement are also related to additions of new paramedic service. The EMS 2002 Task Force reviewed several types of information when considering recommendations for the addition of paramedic services. This information primarily included the following:

- Paramedic Service Performance Indicators
- Countywide distribution of paramedic call volume
- Countywide distribution of resident population density
- Daytime population density (reflecting population redistribution for employment)
- Rate of paramedic calls for patients =>45 years old, =>65 years old.

#### *Paramedic Service Performance Indicators*

In the 1995 EMS Master Plan Update, indicators were adopted for measuring and tracking paramedic unit and system performance. The EMS 2002 Task Force was briefed on these performance indicators. These measures included the traditional EMS yardsticks of patient workload and average response time, but also included other factors for determining when existing service was coming under more pressure by increased calls. The major indicators included:

- Unit workload
- Availability in primary service area and dependence on backup (secondary) unit response
- Response time (unit response performance in primary and secondary service area)
- Frequency and service impact of multiple alarms

These indicators were included in the performance measures requested by the Final Report of the EMS Financial Planning Task Force (2000). These indicators can be readily monitored, and help to identify when unit availability and services are changing. Performance measures, however, do not in themselves serve as automatic triggers for adding new paramedic services, but they do help direct attention to a geographical area of the EMS system, which may need further study.

Paramedic workloads in each geographic area of the county were carefully reviewed, and workload projections were made on the basis of historical increases and the variation in growth that occurs from year to year. 95% confidence intervals were used to determine the most likely range within which workloads would increase.

Demographic information was also used to predict where population growth would likely influence call growth. As would be expected, paramedic calls are not equally distributed across King County. The density of paramedic calls is heaviest in Seattle and Shoreline, Bellevue, and in the urbanized areas of Northeast King County (especially Bothell, Woodinville, Kirkland, Redmond and Issaquah) and in South King County (especially Tukwila, Renton, Kent, Federal Way, and Auburn). This overall pattern is also observed in population density, age distribution, and movements related to employment. EMS data from Seattle, for example, showed that approximately 50% of the patients treated there actually lived outside the city.

The impacts of EMS Strategic Initiatives, started in 1997, were taken into account when forecasting workload. For example, midrange workload projections (King County only) with no impact from Strategic Initiatives increased from 31,250 responses in 2000 to 39,280 in 2007, an increase of 8,030 responses. Under this scenario, an additional 3.6-paramedic units would need to be added over the course of the next levy period. When conservative workload estimates were made that included an impact of Strategic Initiatives, workloads were projected to increase from 31,250 in 2000 to 36,980 responses, an increase of 2.6 paramedic units. The net impact on need for new paramedic services could thus be reduced by one paramedic unit over the course of the next six years (a projected operating savings of \$1.2 million annually). It is too soon to know exactly what the impact of EMS Strategic Initiatives will be on paramedic services, but substantial system savings may be achieved without reductions in service by effective and safe EMS Strategic Initiatives.

Consideration of workload projections, performance indicators, and demographic considerations, led the EMS 2002 Task Force to approve staff recommendation for the addition of future paramedic service in 2002-2007. These are summarized in the chart below:

Year	New Units	Expand a current unit
2001	.5 (Seattle)	
2002	.5 (Shoreline)	.5 (Evergreen) .3 (Vashon) <sup>1</sup> .5 (Seattle) <sup>2</sup>
2003	1 (Seattle) <sup>2</sup>	.5 (Bellevue)
2004	.5 (SKC M1 Proposed) <sup>2</sup>	
2005		
2006	.5 (SKC M1 Proposed) <sup>2</sup>	
2007		

<sup>1</sup> In 2000, Vashon is currently being funded at .2 of a full unit. Vashon would increase to be a .5 unit in 2002, or .3 increase.  
<sup>2</sup> The South King County and Seattle units may be delayed based on outcomes of the strategic initiatives and the new unit evaluation

It is anticipated that 4.3 new paramedic units will be added in Seattle and King County between 2002 and 2007. Seattle plans to add .5 unit in 2002, and one paramedic unit in 2003.

It is useful to summarize the rationale in each case for the remainder of King County units, by paramedic provider group.

The review effort sought first to project future workloads, and then to determine if service to those areas could be provided by either relocating existing paramedic units or

redefining paramedic primary service areas. Both of those alternatives were thoroughly explored before making recommendations for new services, and it was determined that neither was a satisfactory solution to long-term service needs.

#### *Shoreline Medic One*

A review of Shoreline data revealed that the number of ALS (paramedic) calls in that area had been undercounted for years. This undercount was the result uncounted backup mutual aid service provided by Seattle Medic One and, more recently, from Snohomish County Medic 7. King County's database did not reflect responses from those two agencies. It was also clear that the number of multiple alarms occurring during the same time was significantly increasing. Backup response times to Shoreline, whether by Seattle Medic One, Snohomish County Medic 7, or by Evergreen Medic One, were invariably longer - on the order of 16 or more minutes. A recommendation was made that Shoreline receive a 12-hour unit in 2002 to address the peak hour workload issue, lessen need for backup on multiple alarms, and provide a shorter response time to those calls.

#### *Evergreen Medic One*

A 12-hour ALS (paramedic) unit was put in place in Bothell in 1996 to help support peak hour workloads in that area. It had been projected that this unit should transition to a full, 24 hour, paramedic unit in about 2000-2001 if workloads were maintained. This was not possible due to the failure of the EMS levy in 1997. However, it was clear by late 1999 that when this unit went to 24-hour service, it would become the busiest of all of Evergreen Medic One's paramedic units. The unit responded to 1,334 calls in 1999 but 1,717 responses occurred in its primary service area. Thus, 383 calls required a backup response from neighboring paramedic units. This 12-hour unit is recommended to go to 24-hour service in 2002.

#### *Bellevue Medic One*

A 12-hour ALS (paramedic) unit was put in place in the Issaquah-Sammamish area in 1996 to help support peak hour workloads. It had been projected that this unit should transition to a full, 24 hour, paramedic unit in about 2002-2003 if workloads were maintained. Workloads of this 12-hour unit are increasing at a significantly lower rate than the 12-hour unit in Bothell. The unit responded to 946 calls in 1999, and 1,182 occurred in its primary response area. 236 calls required a backup response from neighboring paramedic units. This 12-hour unit is recommended to go to 24-hour service in 2003.

### *Vashon-Maury Island*

ALS (paramedic) services on Vashon-Maury Island depend on the efforts of two paramedics who reside there, a network of physicians and clinics on the island, and medical control from Harborview Medical Center. The island has unique problems of time and distance to hospital care as well as limited transport options (by ferry or Airlift Northwest). It was recommended to raise funding for this operation to .5 level in 2002, a net increase of .3 above what the unit is already receiving. It is recommended that a service model be studied to determine the most effective and efficient method of increasing paramedic coverage.

### *South King County*

Workload projections provided the basis of recommendations to add .5 ALS unit in 2004 and an additional .5 ALS unit in 2006. It is possible that the effects of strategic initiatives now in pilot phase could delay the startup of those units, depending on the effectiveness of the pilot programs. It has not been determined where these additional services will be deployed. Given these uncertainties, it is recommended that a technical report on need for these services and a deployment plan be prepared in 2003 and 2005. These technical reports should be completed in time for submittal with the EMS budget in order that they may be reviewed and approval sought from the King County Council.

Two cities (Cities of Kent and Federal Way) in South King County have expressed an interest in discussing with King County and other South King County cities and fire protection districts the feasibility of delivering paramedic (ALS) services by means of a consortium of South King County BLS provider agencies. EMS 2002 Task Force members agreed the two cities may initiate a dialogue with other cities and fire districts in South King County as to the creation of such an entity. However, members stressed that any new entity must be a component of the efficient and integrated countywide EMS system. King County will also participate in any dialogue, especially as it relates to any transition from a county-provided service to a sub-regionally provided service.



## FINANCIAL PLAN/FORECAST

### **REVENUES:**

#### **Background**

The “Final Report of the EMS Financial Planning Task Force” presented five funding options for the EMS 2002 Task Force consideration (as listed below). (For further information on the task force processes please refer to the section titled “Levy History, Task Force Creation, and Governance over the Strategic Planning Process”):

- Continue with the **six year dedicated property** tax levy for Advanced and Basic Life Support Services and Regional Services.
- Continue with a **permanent dedicated levy** for EMS to fund Advanced and Basic Life Support Services and Regional Services.
- Continue with a **six year dedicated property tax levy** for Advanced and Basic Life Support Services and fund Regional Services from either **King County Current Expense Fund** or **transport fees**.
- Fund Advanced Life Support Services out of the growth in County Current Expense Fund **property tax revenues** with existing property tax authority; fund Regional Services through imposition of **paramedic transport fees**; and, fund Basic Life Support Services through a reduced, **dedicated levy for EMS**. (Note: Regional Services could be funded through an additional incremental increase in Current Expense property taxes.)
- Possible use of **tobacco settlement money** for the funding of emergency medical services.

The EMS 2002 Task Force extensively reviewed the funding options referred from the Financial Planning Task Force. Recommendations on the components of the funding options follow.

### *Transport Fees for Paramedic Transports*

All paramedic units, including Seattle, transported 20,615 ALS patients in 1999. Fees are not charged for paramedic (Advanced Life Support) transports. Some fire departments contract with private ambulance for Basic Life Support (BLS) transport. Fees are charged and collected by the private ambulance provider for any contracted BLS transports.

There are many policy and procedural issues to be considered with implementing fees for paramedic transports. Including:

- Patient care issues such as
  - The possibility of discouraging persons in need from accessing service; and
  - Ensuring equal access to all persons who require EMS service.
- Financial issues such as
  - Weighing the transport fee revenue stream as an offset against the levy or other revenue source.
- Policy issues such as
  - Is EMS an essential public service supported by taxes or is it partially supported by “user” fees?
- Operational issues such as establishing
  - Uniform policies on transports and regulating their application,
  - Administrative policies and procedures for billing and collection.

In addition, the Health Care Financing Administration (HFCA) is in the process of negotiating a revised Medicare Ambulance Fee Schedule. It is anticipated that HFCA will finalize and start a graduated implementation during 2001. Until the final ruling, the impacts of the Medicare reimbursement rate to transport providers can not be fully analyzed.

Two studies recently published begin to address the impact of charging for service and the usage of EMS (*Association Between Prepayment Systems and Emergency Medical Services Use Among Patients With Acute Chest Discomfort Syndrome*, *Annals of Emergency Medicine*, June 2000; and *Demographic, Belief, and Situational Factors Influencing the Decision to Utilize Emergency Medical Services Among Chest Pain Patients*, *Circulation*, July 11, 2000). Both studies conclude that there may be a correlation between charging for service and usage of service.

#### ***The EMS Task Force recommends:***

- ***In light of the many issues to be resolved, to set-aside transport fees as a funding source for the 2002-2007 funding cycle.***
- ***Implementing a study during the next funding cycle to consider the legal, financial, administrative and operational issues of transport fees as adjunct revenue source for future funding. The financial plan includes a placeholder of \$75,000 in 2005 for a study. The budget estimate will be revised during the 2005 King County Budgeting process.***

### *Tobacco Settlement Funding*

The State of Washington will receive \$150 million annually for the next 25 years for restitution from the tobacco product manufacturers for violating state laws. These funds are budgeted annually and are open for debate each year in the state legislature as to where the funds are best needed. In 1999 and 2000, the programs supported were the Basic Health Plan and Tobacco Statewide Control Plan.

***The Task Force recommends eliminating tobacco settlement funds as source of funding for EMS as it is not a reliable and stable long-term funding source.***

### *King County Current Expense (Cx) Contribution*

For the 1997-2001 funding period, the County Current Expense (Cx) funded \$375,000 annually for EMS. \$277,000 assisted the South King County Medic One program with the remaining \$98,000 funding King County employee CPR/AED and Public Health disaster preparedness programs.

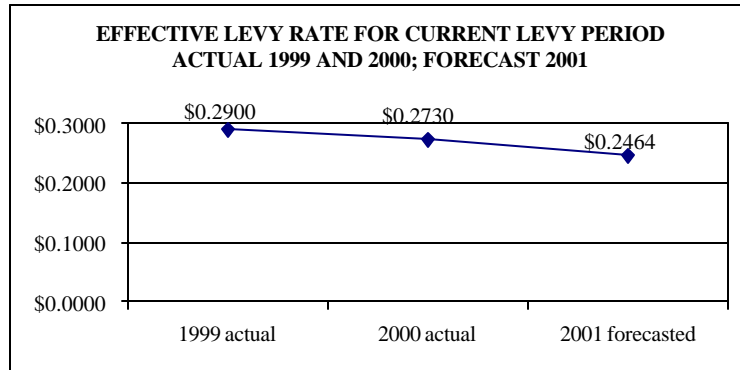
As the South County provider of ALS service, King County commits to an equitable financial contribution as incurred by the other ALS providers. As such, King County will commit for the 2002-2007 funding period to utilizing non-levy funds to support the difference between actual operational cost and the funding allocation for South King County Medic One. The total annual commitment to the EMS program will not be less than the current amount of \$375,000.

### *Dedicated EMS Property Tax Levy*

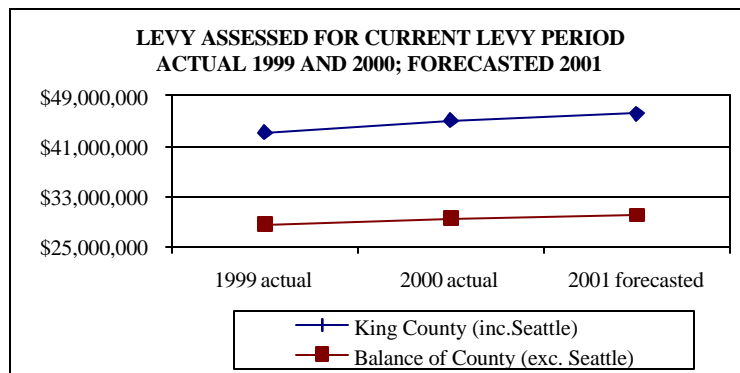
Under RCW 84.052.069, King County has the authority ask the voters to approve an EMS levy to fund the EMS system. RCW 84.52.069 allows for either a 6-year, 10-year, or a permanent renewable levy. The EMS levy is a regular property tax and is subjected to the growth limitations contained in RCW 84.55. In the first year of the levy, the rate is set by voters referred to as the “statutory rate”. Subsequent years the rate is an “effective rate” based on the total revenue collected under the assessment growth limitations in RCW 84.55 divided by the total taxable assessed value.

Currently, under Referendum 47 (RCW 84.55), the growth in the levy assessment after the initial year is capped by the rate of inflation as defined by the Implicit Price Deflator (IPD) plus any new construction without an additional vote of the public or King County Council. Under Referendum 47, the levy lid will cap EMS growth in funding at a maximum of inflation (or 6% with a King County Council vote) in any given year even if assessed values increase at higher than the rate of inflation.

Recent citizen state initiatives have limited the rate of revenue growth to less than inflation during years when the assessed value has increased on average at a higher rate than inflation. This has caused the current 3 year levy to start at the voter approved rate of 29 cents per \$1000 of assessed value in 1999 to reduce to the 2001 rate of 24.64 cents per \$1000 of assessed value. While the effect of the economy reduced the levy rate, actual revenues in combination with cost-savings strategies have generated enough income to maintain current levels of service through the levy period.



Under terms of an inter-local agreement between King County and the City of Seattle, EMS levy funds collected within Seattle City limits go directly to the City to partially support the Seattle EMS program.



The EMS statutory levy was 25 cents per \$1,000 of assessed valuation for the period 1986 to 1997. Due to the levy failure in November 1997, there was no EMS levy for 1998. The first six months of 1998, the system was funded by provider contributions and \$8 million contribution from King County. In February 1998, the voters approved a 29-cent levy through 2001 to fund the second six months of 1998, and 1999 to 2001. By state law, the February 1998 levy could not be collected until 1999, therefore, tax anticipation notes were set up to fund the latter half of 1998.

One of the issues facing the EMS system over the next funding cycle is the citizen climate to limit the growth in property taxes. As costs increase at the CPI or higher, and growth in revenues is limited by voter approved citizen initiatives, eventually the increase in the cost to provide service will exceed the levy revenues. Over time, additional costs could be shifted to other sources (primarily local provider tax authority).

***Based on***

- ***Valuing the EMS service as an integrated regional network of Basic and Advanced Life Support provided by many agencies,***
- ***An extensive review of alternative funding options done by the EMS Financial Planning Task Force,***
- ***And not finding another stable, long-term funding solution,***

***The EMS 2002 Task Force supports the Financial Planning Task Force option to “Continue with the six year dedicated property tax levy for Advanced and Basic Life Support Services and Regional Services”.***

**2002 Future Funding Plan**

The EMS system is funded by a complex combination of regional and local funding sources. ALS and BLS provider contributions continue to be a vital element of the proposed funding package. Historically, the EMS special dedicated levy has been the primary resource for ALS and Regional programs whereas BLS is supported by a combination of city and fire district operating revenues supplemented with regional EMS levy funding.

***Ongoing stable funding is required to ensure a consistent medical delivery system. Financial projections indicate an EMS statutory levy rate of 25 cents per \$1,000 of assessed value for the 6-year funding period 2002-2007 in combination with provider contributions.***

In addition to the EMS levy current and delinquent taxes, the EMS Division of King County receives King County Current Expense (CX) and other miscellaneous sources. Other sources include timber harvest taxes, leasehold excise tax, and interest earnings. Total other sources represent approximately 3% of total revenues.

**FORECASTED ASSESSED VALUE AND LEVY ASSESSMENT FOR 2002-2007**

	Forecast 2002	Forecast 2003	Forecast 2004	Forecast 2005	Forecast 2006	Forecast 2007	2002-2007 Total
Assessed Value Projection:							
Seattle	68,744,010	72,608,798	76,690,865	81,002,425	85,556,382	90,366,362	
Balance of the County	128,960,306	136,210,455	143,868,207	151,956,477	160,499,470	169,522,751	
<b>Total King County Assessed Value Proj.</b>	<b>197,704,316</b>	<b>208,819,253</b>	<b>220,559,072</b>	<b>232,958,902</b>	<b>246,055,852</b>	<b>259,889,113</b>	
Growth in King County Assessed Value	na	5.62%	5.62%	5.62%	5.62%	5.62%	
EMS Levy Projected Assessments:							
Seattle	17,186	17,808	18,453	19,122	19,814	20,532	112,915
Balance of the County	32,240	33,408	34,618	35,872	37,171	38,517	211,826
<b>Total EMS Levy Projected Assessments</b>	<b>49,426</b>	<b>51,216</b>	<b>53,071</b>	<b>54,994</b>	<b>56,985</b>	<b>59,049</b>	<b>324,741</b>
Growth in EMS Levy Assessments	na	3.62%	3.62%	3.62%	3.62%	3.62%	
Proposed Levy Rate per 1,000 AV	25 cents	.245 cents	.24 cents	.236 cents	.231 cents	.227 cents	

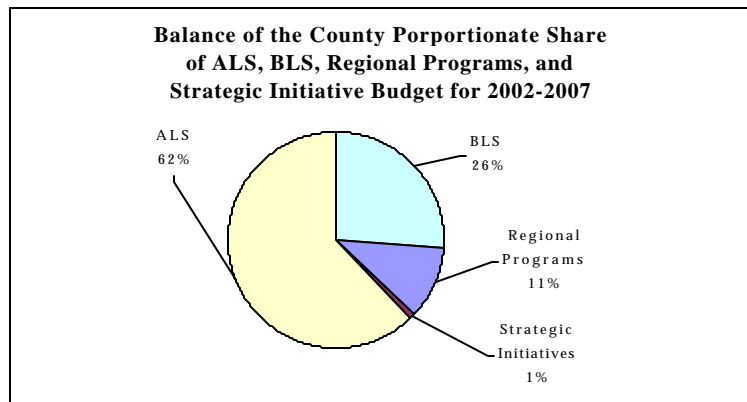
Notes:

- Property tax revenues projected to increase by 2% a year plus an allocation for the prior year new construction (assumed at 1.622%);
- Growth in Assessed Value projected to increase at 4% for appreciation and 1.622% for new construction
- Under terms of an interlocal agreement between King County and Seattle, EMS levy funds collected within Seattle City limits continue go directly to the City of Seattle based on their actual share of assessed value. The forecasted split between the City and the County was based on the 2001 split of 34.77% to Seattle, and 65.23% to King County.
- Levy Rate per 1,000 AV is a statutory rate in 2002, and an effective rate from 2003-2007 rounded to 1/10<sup>th</sup> of a penny.

**EXPENDITURES:**

The 2002-2007 Financial Expenditure Plan is based on the following assumptions. These assumptions are the governing policies used in previous EMS funding packages.

- EMS funding allocations for ALS services have first commitment funding over other financial needs within the EMS system;
- BLS will continue to be funded by combination of regional and local providers to help assure uniform and standardized BLS care, and enhance BLS services to reduce the impact on ALS resources;
- Regional Programs will continue to be funded by a regional source to support core programs essential to providing the highest quality out-of-hospital emergency care available;
- Strategic Initiatives designed to:
  - Manage the rate of growth of call volume,
  - Control costs, and
  - Maintain or improve current standards of patient care;
- Cost increases are limited by the local area Consumer Price Index (CPI).



*ALS system*

Advanced Life Support (ALS) represents approximately 62% of the Balance of County EMS budget. ALS has priority funding over all other financial needs within the EMS system, and is the primary recipient of the EMS levy for the Balance of the County.

ALS services are funded using a “allocation unit” methodology, which is based on the "fully loaded" costs of operating a paramedic unit staffed with two Harborview- trained paramedics. Each 24-hour/2-paramedic unit is funded at 100% of the standard funding amount, each 12-hour and EMT-P unit is funded at 50% of the standard funding amount.

In 1996, during the planning for the 1998-2003 Strategic Plan, the ALS providers developed a “standard costing model” which accounts for the full costs to operate an average medic unit. The standard unit costing model methodology is fair and equitable and assures consistency across jurisdictions in providing medical care to the patient.

The Standard Costing Model is structured to allow expenditures to operate a full- medic unit. Expenditures include:

- Personnel Wages and Overtime Salaries and Benefits (9 paramedics to staff a 2-paramedic, 24 hour, full time unit)
- Medical Equipment and Supplies
- Paramedic Student Training and Continuing Paramedic Education
- Vehicle Maintenance and Fuel
- Support Services – (e.g. Rent, Administrative Staffing, Utilities, Dispatch, Office Supplies, Other professional services, overhead)

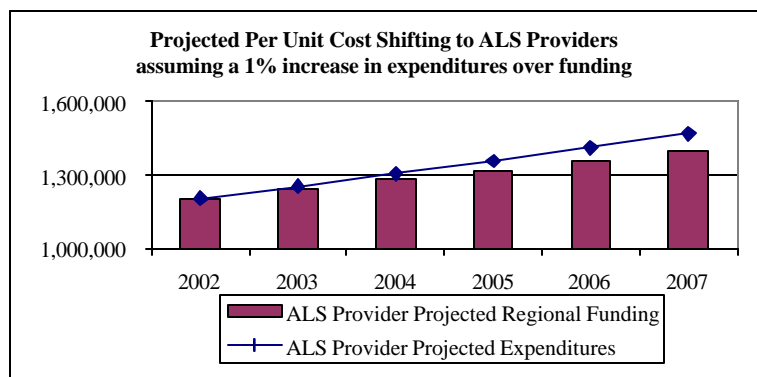
The model was updated with the year-end 1999 actual financial information. The update was consistent with the methodology of 1996. The result of the update was that the average provider standard unit cost was \$1,105,349 in 1999, an increase over the 1996 model of 11% or \$106,000. Inflating the 1999 cost of \$1,105,349 out to 2002 assuming a forecasted consumer price index (CPI) increases the standard unit cost to \$1.2 million a unit in 2002.

The ALS provider funding allocation in 1997 was based on 93.4% of the standard unit 1996 cost or \$934,059. The funding allocation was inflated annually at the rate of inflation to arrive at a 1999 actual per unit funding allotment of \$961,147 or 87% of the actual 1999 average cost to operate a unit.

The reduction in the per unit allocation from 93% of the standard cost in 1997 to 87% of the standard cost in 1999 is the result of two circumstances:

1. Costs incurred by the providers rising at a rate higher than inflation.
2. Due to the 1997 levy failure, 1998 funding was not increased at the rate of inflation, it was frozen at the 1997 level.

Historically, costs incurred by the providers have increased at a rate higher than CPI due to increases in labor agreements and the rising cost of medical supplies and equipment. Over time costs will shift from the ALS funding allocation to the ALS providers if the cost to provide service continues to exceed the CPI inflation. (Assuming a 1% expenditure growth over local area Consumer Price Index, the potential per unit provider contribution increases from 0% (\$0) in 2002 to an estimated 4.7% (\$70,000) by 2007.)



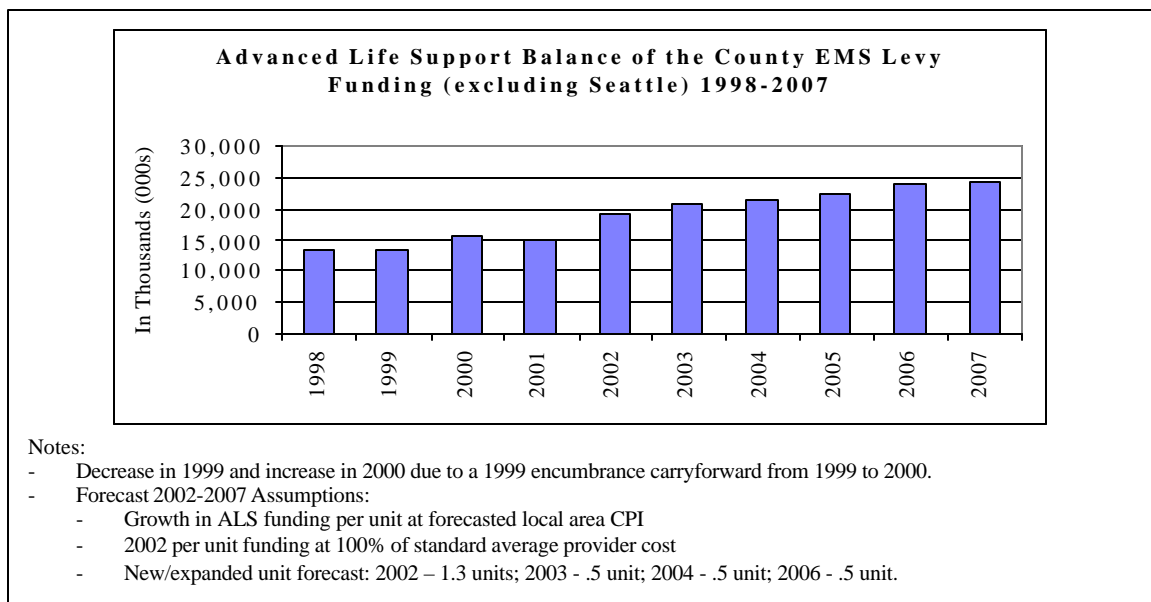


**The EMS 2002 Task Force recommends:**

- **ALS standard funding for 2002 be set at 100% of the average provider standard unit cost or \$1,207,354 for a 2-paramedic, 24 hour, full time unit.**
- **An EMT-P unit and a 2-paramedic, 12 hour, half time unit funding for 2002 be set at 50% of the full time unit or \$603,377.**
- **The annual increase in the funding amount for an ALS unit shall increase by the local-area CPI.**
- **The funding level will be re-evaluated periodically in the funding period based on sufficient funding available to alleviate any dramatic increase in provider contribution.**

The financial plan for 2002-2007 assumes an addition of 2.8 units over the 6-year funding period. With the addition or expansion of units, many one-time start-up costs are incurred which are funded on top of the ALS standard unit funding allocation. During the year prior to service the vehicle and equipment is ordered and purchased, and paramedics are trained at the 10-month paramedic-training program. Once equipment has arrived and paramedics are trained, starting in the year of service and continuing for the length of the funding cycle, the paramedic provider is entitled to the ALS funding allocation.

Paramedic vehicle replacement is funded separately from the ALS standard unit funding allocation. Currently, vehicles are replaced every three years, and then placed into back up service for an additional three years. The allocation for a vehicle replacement estimate in 2002 is \$118,000 and will increase annually by the local area CPI. The paramedic vehicle replacement plan is currently one of the 1998-2003 strategic initiatives to be reviewed and updated by 2003.



### *BLS system*

Basic Life Support or first-on-scene medical care is provided by 35 BLS providers. As the first-on-scene provider, BLS contributes extensively to the success of the EMS system. A portion of the EMS levy is allocated to assure uniform and standardized BLS care, and enhance BLS services to reduce the impact on ALS resources.

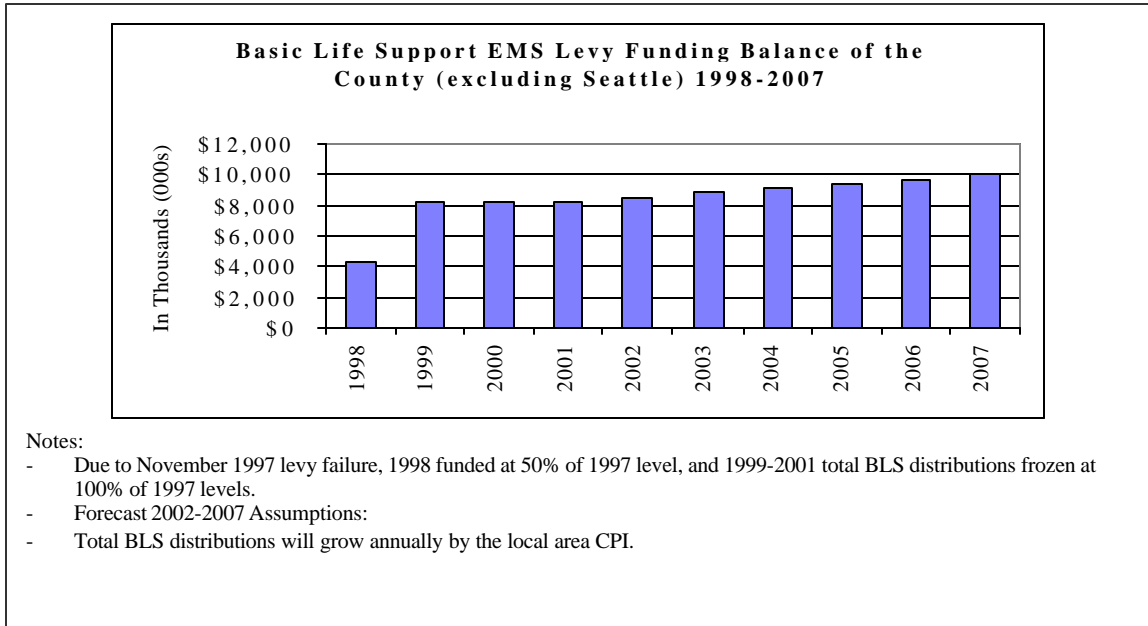
BLS is deeply embedded in the local fire department/district operations and costing estimates will vary from department to department. A major source of financial support for BLS comes from the local fire departments/districts through local tax collections. Integration of BLS services into pre-established fire services offers the public increased access to the highly trained emergency medical technicians/firefighters committed to the health and safety of the public. The EMS levy provides revenue to support only a portion of the costs to operate BLS.

The BLS formula allocates partial BLS funding to each agency taking into consideration urban vs. rural differences, and then bases the final distribution on their proportionate share of three variables, assessed value, population, and call volume. The BLS formula assures that no agency receive less in any given year than the amount received in the prior year, except in cases of annexation and/or incorporations. BLS allocation may also change if additional paramedic service impact the agency classification (i.e. rural, urban, or transitional area). In the event that the total BLS funding is decreased, then all providers will proportionately share in the decrease by applying the funding formula to the lower amount of BLS funding.

In 2000, the EMS levy funded \$8,274,000, which was proportionately allocated to 35 fire departments/districts. Due to the 1997 levy failure, the BLS funding allocations were frozen at the 1997 levels for years 1999, 2000, and 2001. BLS funding in 1998 was limited to 50% of the 1997 level. Prior to 1997, BLS funding grew annually at the rate of levy growth.

#### ***The EMS 2002 Task Force recommends:***

- ***A portion of the EMS regional funding will continue to be allocated to BLS to assure uniform and standardized medical BLS care, and enhance BLS services to reduce the impact on Advanced Life Support resources.***
- ***The current BLS allocation formula is a fair and equitable method of distribution of BLS resources.***
- ***The funding for BLS distribution will increase by the local-area CPI.***



*Regional Support Programs*

Regional Programs support core services essential to providing the highest quality of out-of-hospital emergency medical care available. Regional Support Programs were budgeted in 2001 at \$4,236,000 of which \$3,770,000 was for on-going programs and \$466,000 was for specific one time 2001 funding of the 1998-2003 strategic initiatives. The EMS dedicated levy is the primary support for Regional Programs.

In 2002, Regional ongoing programs are forecasted at \$3,473,000 or 11% of the total levy revenue generated for the balance of the County (excluding Seattle). The reduction from 2001 to 2002 for ongoing programs is primarily due to a change in the cost accounting for central overhead charged from King County. A portion of the overhead will be allocated to the King County Medic program to fully account for the costs to operate King County Medic One.

There are three basic criteria to evaluate a new program to be included in the regional programs area:

1. Program contributes directly to EMS.
2. Program requires ongoing stable funding to assure continuation of the program.
3. Program is not provided by another agency (e.g. if a similar program is provided by another agency, then the KC EMS program should be re-evaluated to determine if service is being duplicated).

Coordination of the EMS Division of King County's programs is managed through the Public Health- Seattle & King County EMS Division and includes the following functions:

- Medical Program Supervision
- Basic Life Support EMT basic training, continuing medical education, and instructor training
- Emergency Medical Dispatch training and continuing education
- Critical Incident Stress Management to support public field personnel (EMTs, paramedics, etc.)
- EMS/911 Public Education and Injury Prevention
- Community Cardio-Pulmonary Resuscitation and Automated External Defibrillation
- EMS data collection, analysis, and evaluation (medical and operational management information)
- Paramedic Continuing Medical Education
- Contract administration
- Division management and financial oversight/monitoring

The EMS Division of King County administers grant-funded programs for EMS research and support of the EMS Trauma Council. The grant funds to support these programs are not included in the financial plan, nor are the program expenditures. If grant funding is decreased, the services will be adjusted to reflect the reduced grant level of financial support.

Grant funded programs include:

- Center for the Evaluation of EMS (CEEMS)  
The Center for the Evaluation of Emergency Medical Services (CEEMS) is a collaborative undertaking of the King County Emergency Medical Services Division and the University of Washington – School of Medicine. CEEMS activities are funded with federal, state, and local grants. The goal of CEEMS is to study pre-hospital emergencies and to develop, evaluate and implement innovative programs to improve survival from medical emergencies.
- Central Regional Trauma Council  
The Trauma Council is a state mandated and funded activity. The Central Region Trauma Council is the planning, administrative and quality assurance organization charged with development of the local EMS and Trauma system. The system includes pre-hospital, hospital, and rehabilitation services.  
The EMS 2002 Task Force recommends continuation of the current operating structure of regional programs.

***The EMS 2002 Task Force recommends:***

- ***Continuation of the current operating structure of regional programs.***
- ***The annual increase in regional programs funding shall increase by the local-area CPI.***

## **SEATTLE'S EMS SYSTEM**

The model described in Chapter 1 of this plan is patterned after the Seattle EMS system. While being operationally similar, the Seattle EMS system is administratively simpler than the system in the rest of the county, because it serves only one jurisdiction. In Seattle, Advanced Life Support (ALS) and Basic Life Support (BLS) are both administered and operated by the Seattle Fire Department.

Seattle's population is approximately 550,000 and its employment is 470,000. More people commute into Seattle to work than commute from Seattle to work elsewhere. In addition, there is a large daily influx of visitors, shoppers, and business customers. Therefore, the typical workday population of Seattle grows to nearly 1 million. In 2000 the Seattle Fire Department responded to more than 55,000 aid calls, of which nearly 21,000 were ALS. EMS calls were approximately 75% of the total alarms to which the fire department responded, and EMS responses accounted for more than 74% of the total time the Fire Department spent responding to emergencies.

The Fire Department responds to these calls with 33 engine companies, 11 ladder companies, 6 BLS units, and 6 ALS paramedic units. The engine and ladder companies, aid units, and four of the paramedic units are distributed in 33 fire stations throughout the city. The other two-paramedic units are stationed at Harborview Medical Center. These companies and units are staffed by 202 on-duty positions, filled by more than 920 EMT-firefighters and paramedics. Medical control, quality assurance, training, and certification for paramedics are provided by Harborview Medical Center and the University of Washington School of Medicine. The Fire Department provides ALS transport, and private ambulances provide BLS transport.

The Fire Department is entirely supported by the City's General Fund. In 2000, the EMS levy will generate approximately \$16.5 million in Seattle, as revenue to the General Fund. If the levy rate is set at \$.25 per \$1000 of assessed value, it should generate \$16 million in 2001. The adopted 2001 budget for the Fire Department is \$97.7 million. The adopted 2001 budget for the Operations Division of the Fire Department, whose primary mission is emergency response for fire suppression and EMS, is \$86.1 million. The adopted 2001 budget for the Administration, Prevention, and Safety & Employee Services Line of Business is \$11.6 million.

In the last three decades, the Seattle EMS system has become a model for jurisdictions and governments worldwide, as well as for King County. It also unquestionably has become a core municipal service. In a 1996 survey, Seattle residents identified EMS as the City service with which they are most satisfied, giving it an average rating of 6.2 on a 7-point scale. Seattle residents also identified EMS as the most important City service, ahead of such traditional municipal services as fire protection, water supply, policing, garbage removal, libraries, traffic management, and street maintenance.

Seattle has been happy to participate in the County EMS planning effort. Some of the future challenges the plan identifies and the strategic initiatives it calls for apply to Seattle as well as the rest of the county. We look forward to working with other jurisdictions on reducing growth

in EMS demand, finding ways to use existing resources more efficiently, and adapting programs to changes in community needs.

**APPENDIX A**

**EMS ADVISORY COMMITTEE**

**Tom Hearne, Chair** – Manager, King County EMS Division

Committee members listed in alphabetical order:

**Norm Angelo** – Fire Chief, City of Kent

**Bob Berschauer** – Director of Operations, American Medical Response

**Michael Copass, M.D.** – Medical Program Director, Seattle Medic One

**Dave Crossen** – Acting Administrator, King County Fire District #39

**Gregory Dean** – Acting Fire Chief, City of Seattle

**Lou Faenrich** – MSO, Bellevue Fire Department

**Chris Fischer** – Director, Valley Communications Center

**Phil Grieb** – MSO, Evergreen Medic One

**Jim Hamilton** – Administrator, King County Fire District #39 (retired 02/01)

**Keith Keller** – Senior Paramedic, King County Medic One

**Jon Kennison** – Fire Commissioner, Shoreline Fire Department

**Peter Lucarelli** – Fire Chief, City of Bellevue

**Brian Mills** – MSO, Seattle Fire Department

**Jack Murray, M.D.** – Medical Program Director, King County EMS

**Steve Olmstead, M.D.** – Medical Director, King County Medic One

**Alonzo Plough, Ph.D.** – Director, Seattle/King County – Public Health

**Ed Plumlee** – Manager, King County Medic One

**JB Smith** – Fire Chief, Shoreline Fire Department

**Jim Wilson** – Fire Chief, Vashon/Maury Island Fire Department

**EMS FINANCIAL STAFF TEAM**

**Steve Call, Chair** – Budget Director, King County

Committee members listed in alphabetical order:

**Marilyn Beard** – Financial Manager, City of Kirkland

**Thomas Dunlap** – Policy & Management Analyst, City of Seattle

**Peter Harris** – Legislative Analyst, City of Seattle

**Marie Mosley** – Deputy Management Svc Director, City of Federal Way

**Mike Reed** – Council Staff, King County Council

**Rich Siegel** – Assistant Budget Manager, City of Bellevue

**JB Smith** – Fire Chief, Shoreline Fire Department

**Diane Supler** – Financial Director, City of Auburn

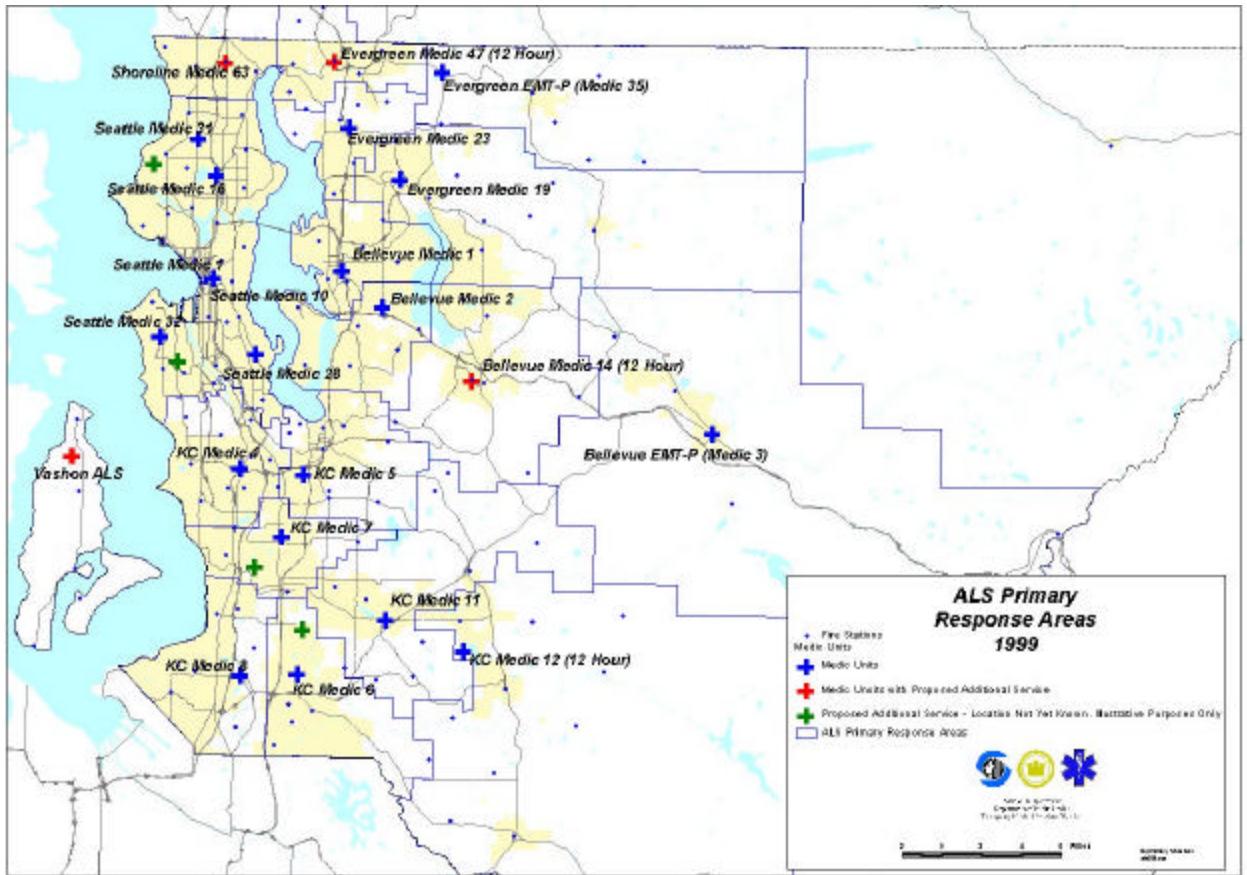
**Dwight Van Zanen** – Fire Chief, Maple Valley Fire & Rescue



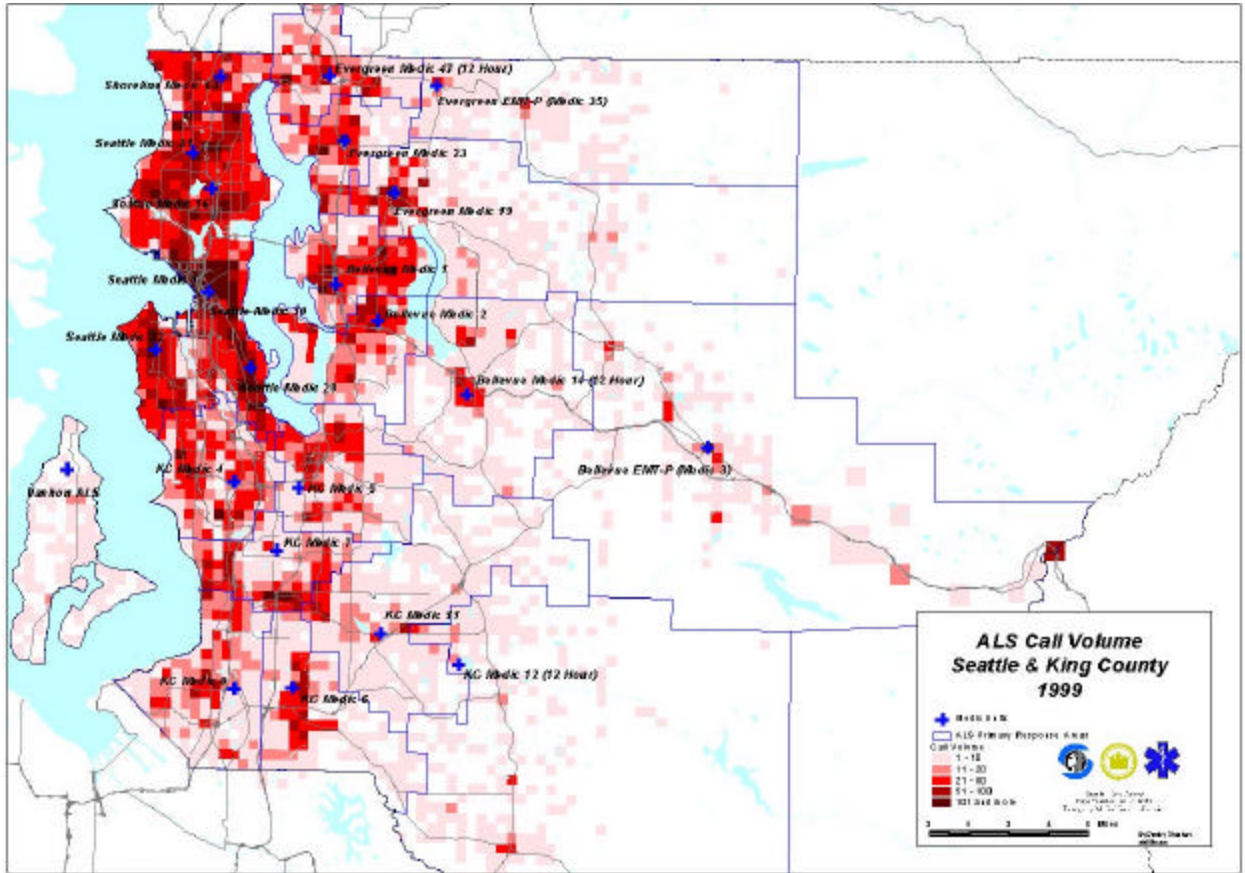
**APPENDIX B: Table B-1: EMS STRATEGIC INITIATIVE SUMMARY TABLE**

<b>Strategic Initiative:</b>	<b>Development Stage</b>	<b>Pilot Project Stage</b>	<b>Implementation Stage</b>
EMS Advisory Committee		N/A	Initiated: 12/ 97
Regional Purchasing Program	Developed pilot project	Completed pilot: 3/ 99	Initiated program: 4/ 99
New Vehicle Replacement Program	Reviewed project options 2/99	N/A	Anticipate completion: 12/ 00
ALS, BLS, regional services, and financial monitoring systems	Developed pilot project 8/98	Initiated Phase I: 1/ 01	
EMS Policy Issues with other health care entities	Integrated within the initiatives	N/A	N/A
ALS Response and Dispatch Triage Criteria	Developed work plan	Completed Phase II: 7/00 Initiated Phase III: 9/ 00	
Transport destination policies	Developed pilot project	Completed pilot: 7/ 99 Expanded: 1/00	Initiated program: 9/ 00
Public Education on use of 911	Developed review project	Completed initial review: 6/99	Continued review
Dispatch referral network for appropriate calls	Developed pilot project	Completed Eastside pilot: 6/ 99 Expanded to Valley: 8/00	
BLS run review program and performance measurements	Developed pilot project	Completed pilot: 6/ 99	Incorporated into Quality Management Program
Quality Management Program	Ongoing	Ongoing	Developing Document: 10/00
Strategic Planning for next EMS financial period	Developing plan	N/A	Initiated: 1/ 00

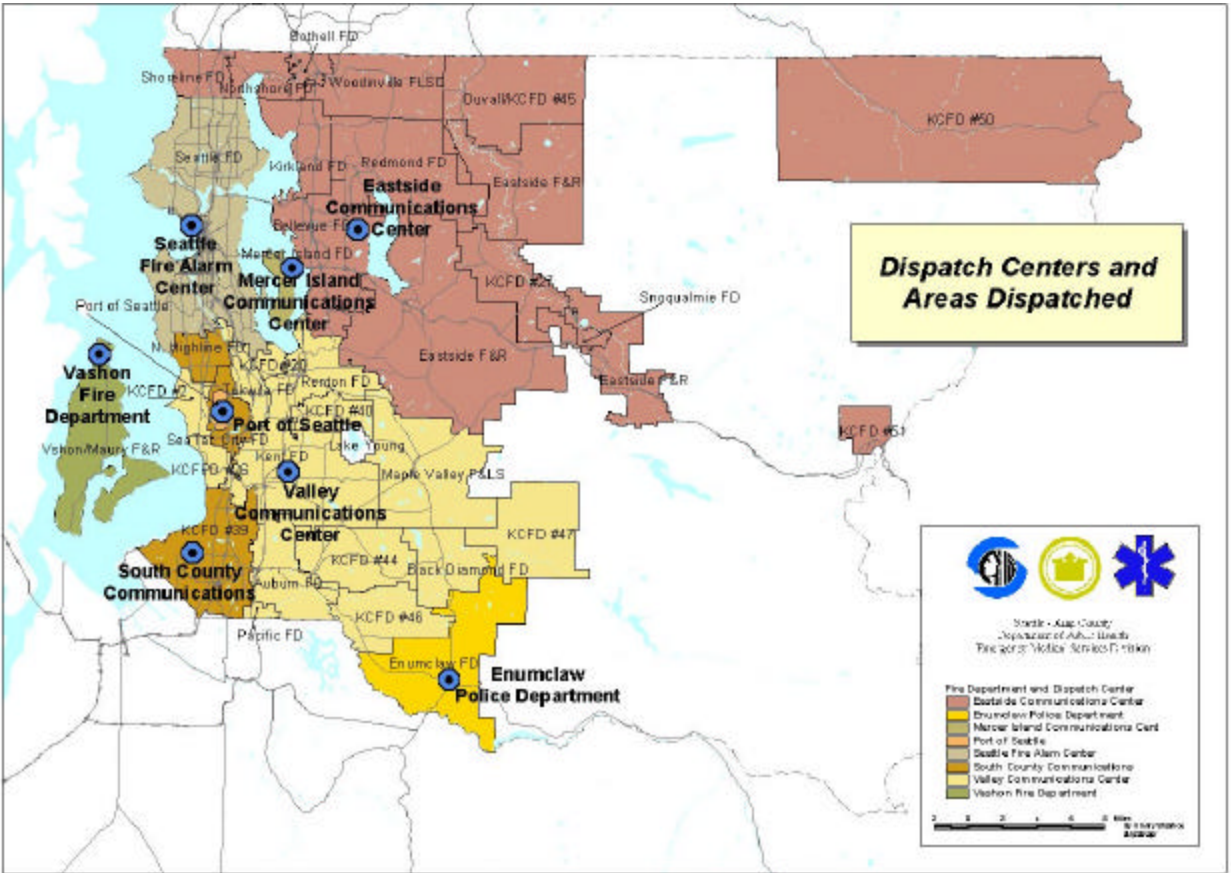
Map B-2: ALS Primary Response Areas



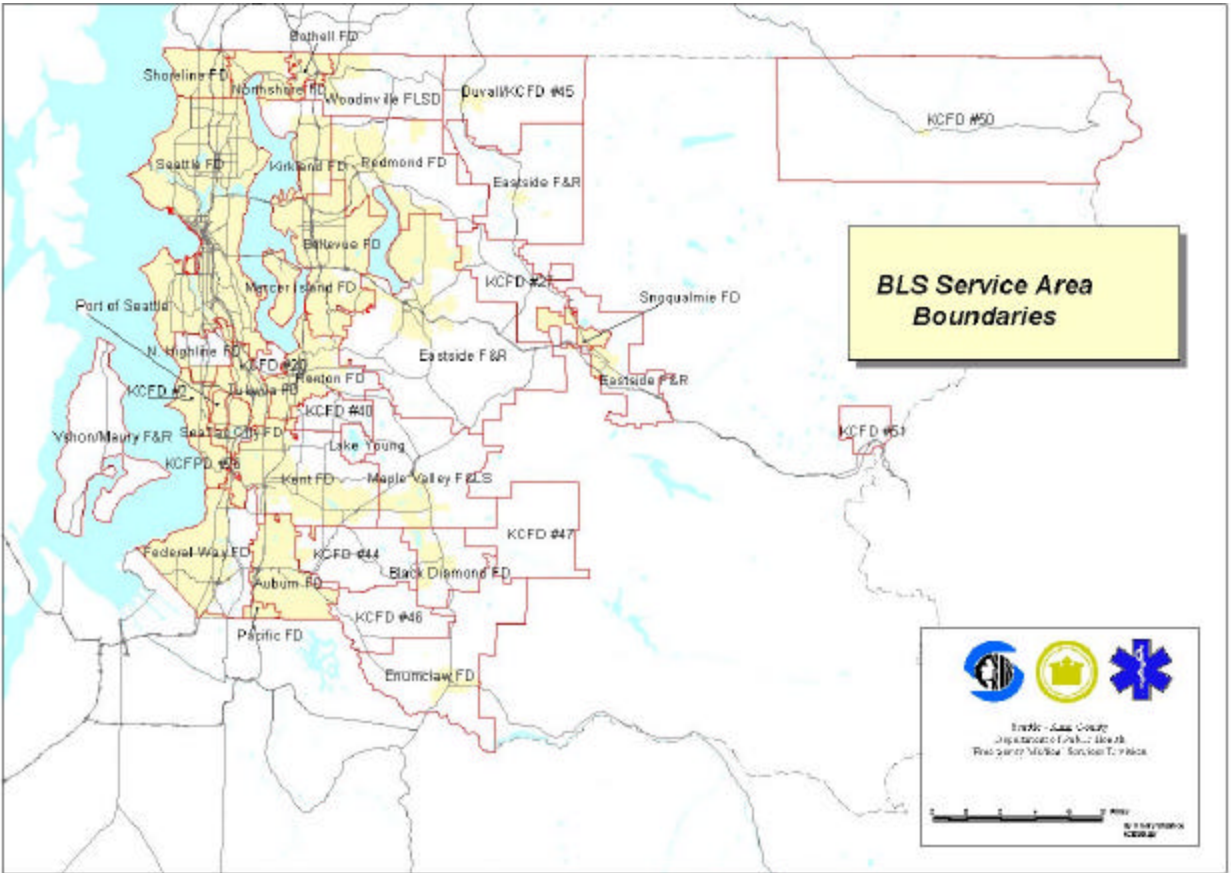
Map B-3: ALS Call Volume Seattle and King County 1999



Map B-4: Dispatch Centers and Areas Dispatched

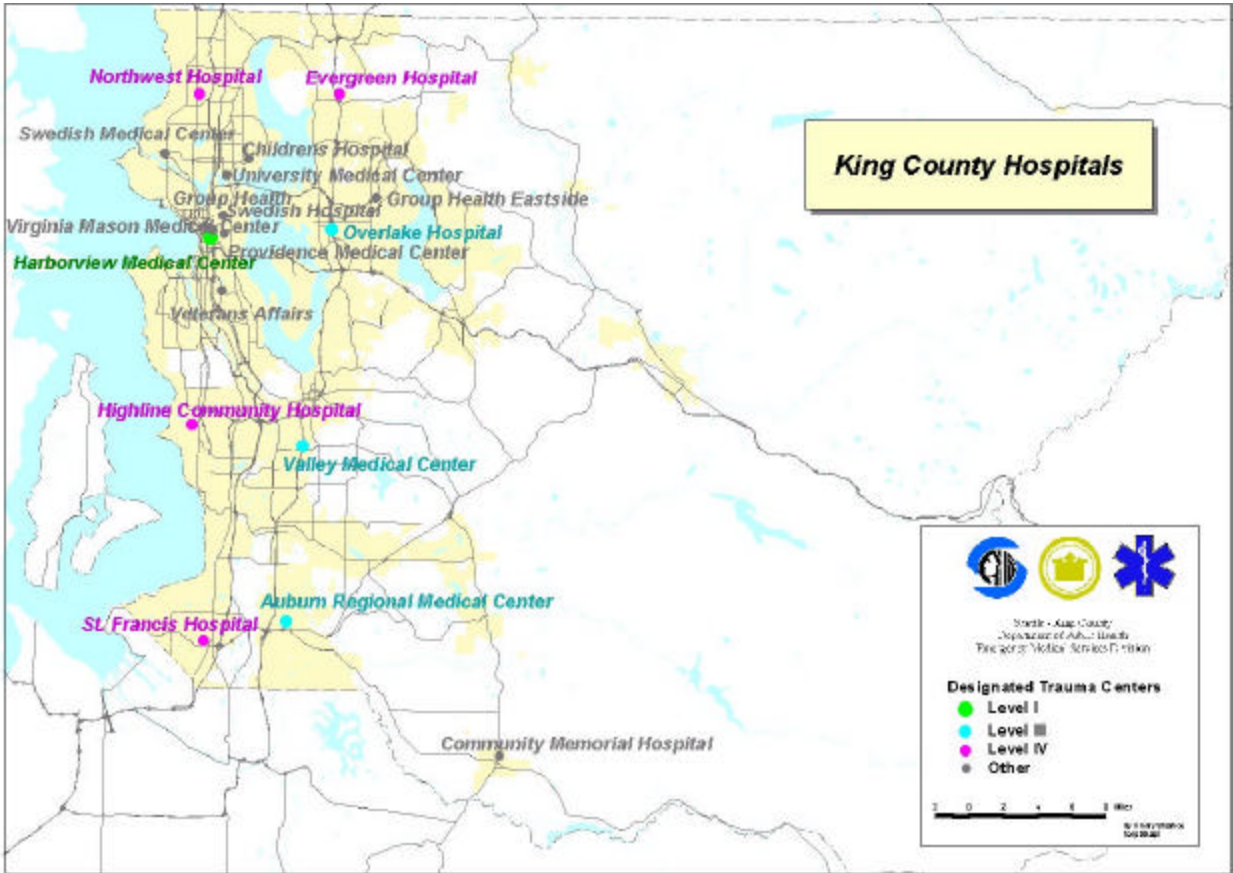


Map B-5: BLS Service Area Boundaries





Map B-6: King County Hospitals



**APPENDIX C**  
**King County Emergency Medical Services Operating Fund (1190)**  
**Historical and Forecasted Revenues and Expenditures**  
**Excludes Seattle EMS levy Funds<sup>1</sup>**  
**In Thousands (000s)**

	No Levy	Statutory Rate: \$.29/\$1,000 AV			Proposed Statutory Rate of \$.25/\$1,000 AV					
	Actual 1998	Actual 1999	Actual 2000	Budget 2001	Forecast 2002	Forecast 2003	Forecast 2004	Forecast 2005	Forecast 2006	Forecast 2007
BEGINNING FUND BALANCE	\$4,335	\$(7,801)	\$5,252	\$(31)	\$2,134	\$3,007	\$3,247	\$3,610	\$3,685	\$3,277
<b>REVENUES</b>										
EMS levy – County Share – Current <sup>2</sup>	\$ -	\$27,880	\$28,873	\$29,412	\$31,515	\$32,656	\$33,839	\$35,065	\$36,335	\$37,651
Other Revenues <sup>3</sup>	<u>8,695</u>	<u>1,454</u>	<u>1,525</u>	<u>1,426</u>	<u>1,065</u>	<u>1,187</u>	<u>1,316</u>	<u>1,444</u>	<u>1,604</u>	<u>1,752</u>
<b>TOTAL REVENUES</b>	\$8,695	\$29,334	\$30,398	\$30,838	\$32,580	\$33,843	\$35,155	\$36,509	\$37,939	\$39,403
<b>EXPENDITURES</b>										
Paramedic Services - County Share <sup>4</sup>	\$13,379	\$13,312	\$15,472	\$14,858	\$19,232	\$20,749	\$21,502	\$22,550	\$23,969	\$24,289
Basic Life Support Services – County Share	4,316	8,225	8,275	8,278	8,543	8,816	9,098	9,390	9,690	10,000
EMS Div. Regional Svc. - County Share <sup>5</sup>	2,702	3,119	3,388	3,770	3,482	3,593	3,708	3,827	3,949	4,075
Strategic Initiatives <sup>6</sup>	<u>-</u>	<u>-</u>	<u>-</u>	<u>466</u>	<u>450</u>	<u>367</u>	<u>309</u>	<u>394</u>	<u>334</u>	<u>330</u>
<b>TOTAL EXPENDITURES</b>	\$20,397	\$24,656	\$27,135	\$27,372	\$31,707	\$33,525	\$34,617	\$36,161	\$37,942	\$38,694
Adjustments <sup>7</sup>	<u>(434)</u>	<u>8,375</u>	<u>(8,546)</u>	<u>(1,301)</u>	<u>-</u>	<u>(78)</u>	<u>(175)</u>	<u>(273)</u>	<u>(405)</u>	<u>(525)</u>
<b>ENDING FUND BALANCE</b>	<u>\$(7,801)</u>	<u>\$5,252</u>	<u>\$(31)</u>	<u>\$2,134</u>	<u>\$3,007</u>	<u>\$3,247</u>	<u>\$3,610</u>	<u>\$3,685</u>	<u>\$3,277</u>	<u>\$3,461</u>
Target Ending Fund Balance <sup>8</sup>										\$3,224
<b>Reference: TAN Debt Borrowings</b>	\$15,000	\$9,000								

<sup>1</sup> Seattle Levy revenues and expenditures are excluded from this table due to different budget methods

<sup>2</sup> EMS Levy increased by 2% plus new construction annually, gross levy assessment noted on page 46 reduced by delinquent accounts assumed at 2.25% annually

<sup>3</sup> Other revenues include: Delinquent EMS Levy taxes, King County Cx Contribution, Interest Income, timber taxes, leasehold excise tax, and other miscellaneous sources

<sup>4</sup> Paramedic expenditures includes ALS per unit allocation, new and expanded unit costs, and vehicle replacement

<sup>5</sup> 2002 reduction due to change in cost accounting procedures for central overhead charges.

<sup>6</sup> Strategic Initiative breakdown refer to the section "Development of Strategic Initiatives" plus \$75,000 in 2005 for a paramedic transport fee study

<sup>7</sup> Adjustments include: designated reappropriations, encumbrances, debt transfers to debt fund, estimated SKC ALS cost shifting, and other miscellaneous adjustments

<sup>8</sup> Target Ending Fund Balance forecasted at 1/12 of Total Operating Expenditures