

# **Final Strategic Plan**

## **Whatcom County Emergency Medical Service Long Term Strategic Planning Process**



**Whatcom County, Washington**

**August 2002**



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Committee Members and who they represented were as follows:

### ***Whatcom County EMS Strategic Planning Committee***

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## GLOSSARY OF TERMS

- 1) **Advanced Life Support (ALS)** – The more sophisticated level of care that paramedics render, including advanced airway management, defibrillation, intravenous therapy, and medication.
- 2) **Basic Life Support (BLS)** – The level of care provided by persons trained in first aid, cardiopulmonary resuscitation, and other non-invasive care. First responders, emergency medical technicians, or paramedics usually provide this care.
- 3) **Emergency Medical Services (EMS) System** – Describes the integrated actions of the various EMS components, agencies, personnel, and institutions as they relate in a functioning system. It includes dispatch, first response with EMT and/or first responders, and transport by Medic one or similar agency. It has both administrative and medical oversight and operational structure. It encompasses the fire agencies as well as Medic One.
- 4) **Emergency Medical Technician (EMT)** – A person who has completed training based on the EMT-Basic National Standard Curriculum and is trained in all phases of BLS, including the use of automated external defibrillators (AEDs) and assistance of a patient with the administration of some medications.
- 5) **First Responder** –The first trained person of the EMS system to arrive at the scene of an emergency. A first responder is capable of recognizing the seriousness of the patient’s condition or extent of injuries and administering appropriate emergency medical care for life-threatening injuries relative to airway, breathing, and circulation.
- 6) **Medical Program Director** – A State-appointed physician who has medical oversight over the entire EMS System for the City and County.
- 7) **Medic One** – The ALS transport component of the EMS System. It is operated under the Joint Powers Agreement between the City of Bellingham and Whatcom County.
- 8) **Paramedic** – A person who has completed training based on the EMT-Paramedic National Standard Curriculum, including advanced training in patient assessment, cardiac rhythm interpretation, defibrillation, drug therapy, and airway management.

## EXECUTIVE SUMMARY

The Emergency Medical Services (EMS) System in the City of Bellingham and Whatcom County is rapidly approaching a critical juncture in its long, proud history of state-of-the-art operations and medical care. Whatcom County, and other jurisdictions around the country are faced with the increased challenges of providing emergency medical services (EMS).

The Whatcom County EMS Strategic Planning Committee conducted a comprehensive strategic planning process, using an independent public safety consulting firm, TriData Corporation of Arlington, VA, to facilitate the process and to assist in the analyses. This report represents the results of the process – a strategic plan for Whatcom County EMS going into the future.

This plan addresses the EMS system in its entirety. It includes the Medic One program; countywide first response with EMT's or first responders as provided by the 17 fire protection districts; dispatch; and many other components.

The Medic One Advanced Life Support program, operated by the Bellingham Fire Department and funded jointly by both the County and City, has been operating at a high level. Medic One has been one of the most successful integrations of pre-hospital care model into a public safety setting, with medical save rates consistently among the best nationwide. The citizens, political leadership, medical leadership, fire department leadership, and medical providers have embraced the sophisticated training demands required to function as a dual-role/cross-trained firefighter/paramedic, and should be extremely proud of the program's achievements.

In order to maintain excellence, the Medic One program and Whatcom County EMS needs a sound future plan to keep up with the ever-changing medical and operational environment. Since the tragic events on 9/11, this has become a new reality.

The strategic planning committee met monthly from January 2002 to June 2002, and adopted a consensus building approach. The committee believes that consensus building is preferable to a majority rules voting practice. The committee is pleased to report that the new strategic plan accurately represents the goals and objectives of the committee's representation. The committee structure gave all stakeholders and citizens

an opportunity to provide input. TriData also conducted independent reviews of the EMS system component capabilities so as to provide expert opinions during the issue discussions.

## **Current Setting**

The 17 fire protection districts of Whatcom County do not have uniform capabilities for the provision of EMS services. Some of the departments have more sophisticated service delivery than others, mainly a function of population density and call volume. Some fire districts are more ready than others to assume a larger role in the provision of EMS countywide, which is to be expected. Volunteer retention issues are very much a part of this dynamic and are discussed fully in this plan.

It is not uncommon to find counties operating with as many fire districts as Whatcom County currently hosts, because fire protection started as a local community-based service. In an era when community spirit and volunteerism are often difficult to find, communities should be encouraged to coalesce around any community institution they see fit to use. Each fire service agency should work toward maintaining the local identity and characteristics of the fire districts while working together toward a common goal.

Although there is no imminent operational crisis facing the Medic One program that would jeopardize its daily operations over the next one to three years, the entire EMS delivery system is rapidly reaching a funding security “fork in the road” that requires the entire community to make a choice – whether to continue with the present level of coordination or coordinate services more closely, and to fund them more equitably.

The problem lies in the ever-increasing costs and training requirements of delivering state of the art fire suppression and emergency medical services. Economies of scale offer a substantial benefit to those that bear the financial burden. Indeed, the future of sound, secure, and cost effective pre-hospital care funding is the most immediate and pressing issue. Funding is the issue that currently requires the most attention. The operational, medical, and public safety aspects of service are all in excellent condition, but will not be able to maintain it without adequate funding.

## Plan Overview

The most important recommendation of the Whatcom/Bellingham Joint Strategic Planning Committee is that the County and City should support instituting an EMS Tax Levy to assure adequate resources for the future. It is recommended that the levy be imposed for six years. The minimum levy required to sustain the EMS system and Medic One program for the next 6 years would be 32 cents per \$1,000 of assessed valuation. This includes the cost of adding one additional medic unit to the system, compensating for the pending Medicare reimbursement declines, and inflation. A somewhat higher levy would allow improving the system (e.g., having a more sophisticated BLS program) and not remain status quo. The levy has to be on the ballot no later than November of 2003, which is the amount of time the County can sustain its current payment to the EMS system. (Of course, a March 2003 vote is also acceptable.)

The distribution plan for levy funds should have the following characteristics:

- The plan must be fair to all entities;
- The current model for delivering EMS (i.e., a fire- and service-based system) would remain unchanged; and,
- Billings and collections for ambulance transport would continue and remain an integral part of the funding.

In addition to the major recommendation to impose an EMS Tax Levy, the strategic EMS plan calls for:

- A proposed design of an organization to coordinate and distribute funds;
- Better ALS and BLS integration between the County and City, with incentives to reduce the total number of fire districts; and,
- Solutions to the volunteer recruitment and retention problems.

The details of the four major recommendations of this plan are discussed and described in the “Critical Issues” section of this plan. Additional recommendations are found in the section entitled “Key Strategic Areas.”

## Summary of Recommendations

The most important recommendations in the report are listed below. There are other suggestions and recommendations throughout the text.

- 1) Pass an EMS tax levy for a six-year period.
- 2) Create an interlocal cooperative agreement among the 17 fire protection districts.
- 3) Build the Bellingham/Whatcom County EMS System Partnership.
- 4) Construct a distribution formula to allot the funds from the levy.
- 5) Rejuvenate and sustain countywide volunteer recruitment programs.
- 6) Consider using excess funds to fund programs and positions that benefit all participants in the system, should extra funds be identified.

## I. BACKGROUND

For approximately the past two and a half years (since October 1999), the Whatcom County Emergency Medical Services Strategic Planning Committee has made a concerted effort to develop a comprehensive strategic plan for the future of EMS throughout Whatcom County.

TriData Corporation, which specializes in fire and EMS planning, was competitively selected to help facilitate, coordinate, and develop a comprehensive long-term strategic plan for Whatcom County, the City of Bellingham, and other small cities and towns. The study was divided into two phases. Phase I was intended to accomplish the following:

- 1) Develop and publish a draft mission statement
- 2) Develop and publish a draft vision statement
- 3) Develop and publish a list of core values
- 4) Conduct and publish a Critical Issues Analysis of the current system
- 5) Conduct and publish a draft SLOT (or SWOT) Analysis
- 6) Identify and publish a list of Key Strategic Areas

Phase II was to accomplish goals and objectives for the system and develop a finalized Whatcom County EMS Strategic Plan. Furthermore, this phase was to make recommendations to improve countywide emergency medical services, administration of programs, reduce duplication and increase coordination responsibilities, and address the issues of funding and system integration. It also took into consideration the politics of the region.

As Whatcom County grows and expands, a primary goal is the preservation of the “one program” or *integrated* approach to the EMS system. To preserve excellent services, it is critical to maintain a single delivery system, even if an individual fire protection district, a few fire protection districts, or a single provider supplies it. The current system has an exceptional reputation for first-rate, high quality emergency medical services. However, there are some challenges on the horizon that will require changes to the current system to continue to provide a high level of service, especially with smaller departments growing in size, communities evolving, and the population increasing.

## Scope

More specifically, the scope of work, as articulated in the original RFP of this study and modified as the meetings progressed, was to accomplish the following:

- Identify the successful elements of the current system;
- Reduce duplication of services and lack of coordination;
- Identify the resources among local governments, first districts, and other organizations that can be shared in order to improve the delivery of emergency medical services throughout Whatcom County;
- Describe and detail the components of an emergency medical services system that meets the requirements of state and federal laws that would lead to the most efficient and effective delivery of these services for the future needs of Whatcom County;
- Outline goals and specific objectives in priority order that will lead to improved cost-effective operation of the following elements of the system:
  1. Administration
  2. System Coordination
  3. Role of the Whatcom County Emergency Medical Services and Trauma Care Council
  4. Medical Control
  5. Human Resources
  6. First Response Services
  7. Ambulance Services
  8. Dispatch Services (Medical Priority Dispatch)
  9. Communications
  10. Training
  11. Facilities
  12. Equipment
  13. Quality Assurance
  14. Finance
- Outline program plans based on current and future need projections;
- Identify the agencies that will be responsible for providing EMS in the future, including their roles and responsibilities;
- Develop recommendations for management of the emergency medical services system, including recommended methods for quality assurance;
- Propose performance measures, benchmarks, and expected outcomes.

## Methodology

The study used multiple approaches. It began with a kick-off meeting with Whatcom County's Emergency Medical Services Strategic Planning Committee (not including TriData personnel), who triaged the issues to be covered. At each subsequent meeting, TriData personnel were present and facilitated the planning session. The meeting topics progressed basically in the order listed in the RFP.

The study proceeded in the following ways:

- During each visit, we had a three - person team meet with the EMS Strategic Planning Committee.
- Throughout the study, right from the start, we met with many of the strategic planning committee representatives (who represented labor unions, fire commissioners, fire chiefs, County and City council, etc.) individually or in small groups to allay misconceptions, get their input on major issues, and open channels of communication, especially for what the system will look like in the future. We also familiarized ourselves with the geography, viewed some stations and apparatus, and observed some EMS responses first-hand.
- Each of our strategic planning committee meetings was accomplished in one large group. During the course of the study we maintained formal and informal contact with the project manager for this study.
- The TriData facilitators actively participated in the process, bringing ideas from departments all over the country, rather than just being neutral facilitators. The work group, including the facilitators, addressed many of the system issues, including funding, coordination, administration, allocation of resources, and the merging of 17 fire protection districts. The committee also discussed the formal process of the strategic plan, including mission of the system, vision, core values and key strategic areas. The group also attempted to design an optimal system, which would determine the funding mechanism and other critical issues of the system.
- The approach included reviewing and analyzing records, data, and documents, including several developed in response to information gathered during the study.

## **II. OVERVIEW OF EMERGENCY MEDICAL SERVICES SYSTEM**

This section describes the current emergency medical services system in Whatcom County, which includes Whatcom Medic One, the various municipal fire departments, private transport companies, and aeromedical services. The citizens of Whatcom County generally are being well served by the EMS system. However, as discussed throughout this strategic plan, the efficiency and quality of services could be improved. To do so, numerous operational and political issues, especially system coordination and funding, must be resolved at both the county and municipal (local) levels.

### **Description of County and Risks**

Whatcom County, also called the “Fourth Corner” of the U.S. because it is the last county on the Washington coastline bordering British Columbia, encompasses 2,125 square miles of urban, suburban, rural, and wilderness areas. The topography is diverse with extremely mountainous areas in the eastern portion, and wide lowland floodplains near the marine shoreline.

To the north, the County is bordered by British Columbia, Canada. On the east the border is the Cascade Mountains, to the south is Skagit County, and to the west is Puget Sound. The County is 90 miles north of Seattle and 50 miles south of Vancouver. The land use in the county is mostly residential with some agricultural, commercial, industrial, and manufacturing areas. A major interstate, Interstate 5, crosses through the western part of the County running north and south.

Within the County are three airports: Bellingham International Airport, which serves the commercial, general aviation, and corporate air transportation needs of the region; and two general aviation airports. Throughout the County are several large industries and hazards, including two oil refineries, two major pipelines (the Olympic Pipeline and William’s Pipeline), and the Mt. Baker volcano. (Mt. Baker “burped” in the late 70s and still has steam vents on top.) Other high risks and hazards include earthquakes, hazardous materials (transported by road and rail), and weapons of mass destruction/terrorism.

Given its location along the Interstate 5 corridor in proximity to Seattle/King County and other major cities in Canada such as Vancouver, Whatcom County is in an

ideal position to capitalize on business and economic opportunities, as well as an expanded citizen base. An increase in the number of housing developments, commercial industries, building permits issued, and the rate of growth this past decade are all indications of this growth.

Weapons of Mass Destruction (WMD) are generally defined as chemical, biological, or radiological devices or attacks designed to inflict mass casualties and environmental contamination. Credible threat assessments indicate that terrorist groups have the capability of deploying such devices or agents within the United States and Canada. Given Whatcom County's proximity to the Canadian border, Bellingham International Airport, and the City of Seattle, there is a possibility that Whatcom County could one day be faced with a WMD attack, or the consequences of an attack on the cities to the north and south.

Disaster drills and exercises are coordinated on a countywide basis. This is a good idea and should be continued. A major lesson from the 9/11 attacks and various natural disasters was the need for interagency practice drills.

**Population** – In 2000 the County's population was 166,814, an increase of over 30.5 percent from the 1990 estimate of nearly 128,000. The population of the urban growth area (UGA) centered at each city in the county is included in Table 1. The urban growth areas of Columbia Valley and Birch Bay experienced the greatest growth over the last decade. Each of the incorporated cities experienced a higher growth rate than the unincorporated areas as a whole.<sup>1</sup>

**Table 1: Population (including Urban Growth Area) and Annual Growth Rate**

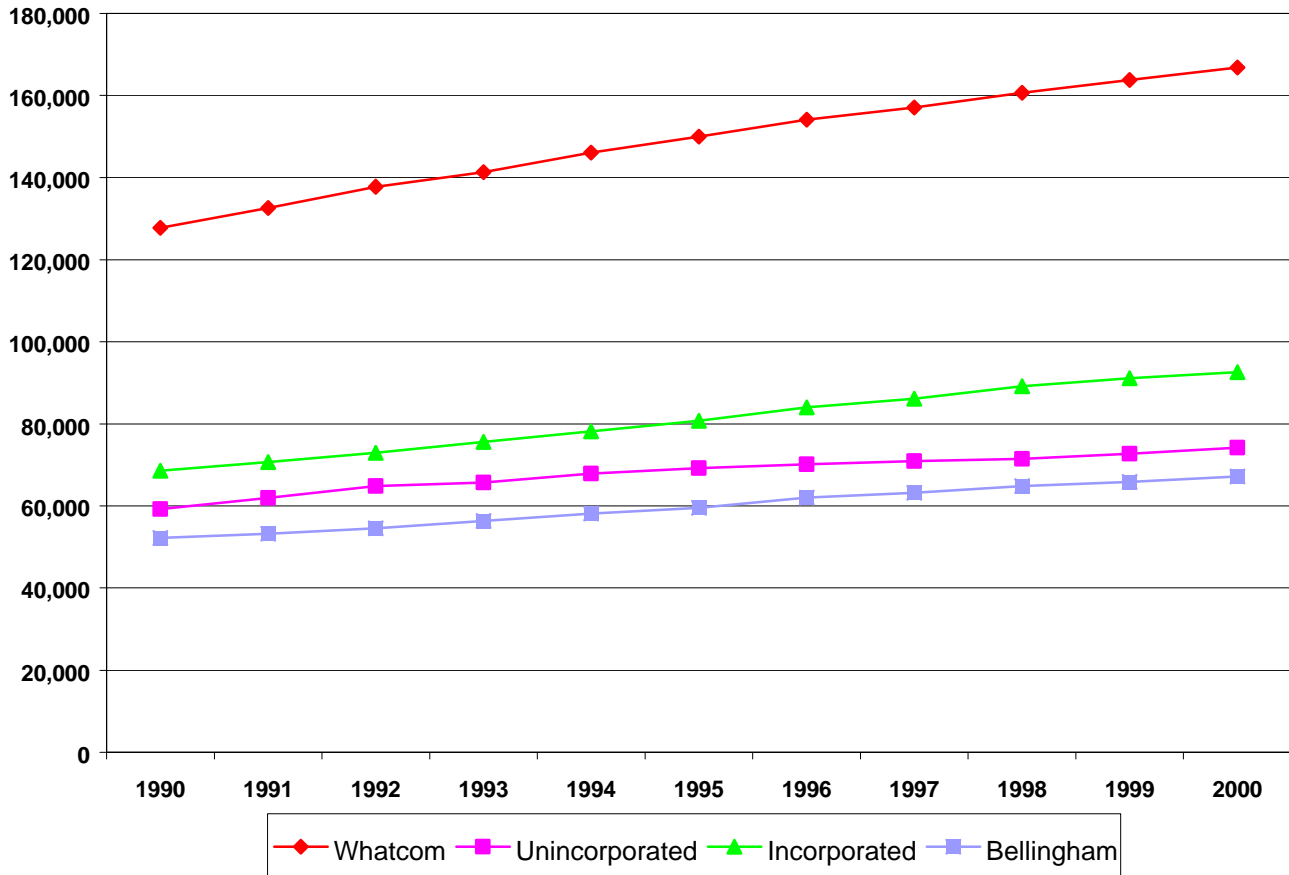
Jurisdictions	1990	2000	1990-2000 Annual Rate
Bellingham	61,250	78,040	2.45%
Blaine	3,538	4,779	3.05%
Everson	1,761	2,256	2.51%
Ferndale	6,986	9,934	3.58%
Lynden	6,453	9,604	4.06%
Nooksack	616	895	3.81%

<sup>1</sup> The population data varies by source. We used the data from ECONorthwest, a consulting firm paid jointly by the City of Bellingham and Whatcom County to perform population and economic forecasts throughout Whatcom County.

Jurisdictions	1990	2000	1990-2000 Annual Rate
Sumas	792	995	2.31%
Columbia Valley	471	2,490	18.12%
Point Roberts	923	1,308	3.55%
Birch Bay	2,283	4,532	7.10%
Other Unincorporated Areas	42,707	51,981	1.98%
<b>Whatcom County</b>	<b>127,780</b>	<b>166,814</b>	<b>2.70%</b>

The population is mostly concentrated along the Interstate 5 corridor. Demographically, the County is 88.4 percent Caucasian, 0.7 percent African American, 5.2 percent Hispanic, 2.8 percent American Indian and Alaskan Native, 2.8 percent Asian, and 0.1 percent other.<sup>2</sup> In the past decade, the population of Whatcom County has grown at a yearly rate of 2.7 percent, as shown in Figure 1. This is higher than the statewide average of 1.9 percent.

Figure 1: Population Trends



<sup>2</sup> United States Census 2000

**Population Projections** – ECONorthwest, a private consulting firm based in Seattle, WA, recently performed a population forecast study for Whatcom County. Projections of the sub-areas are based on linear regression analyses of total county growth and sub-area growth over the past decade as well as available land and employment opportunities. The population of Whatcom County is expected to increase by an average of 2,923 people per year over the next twenty years. Bellingham and its surrounding urban growth areas are expected to absorb 49 percent of this growth over this time. Table 2 shows the resulting population projections.

**Table 2: Population Projection (including Urban Growth Areas) – Baseline Area Growth Forecast**

Jurisdictions	2002	2007	2012	2017	2022
Bellingham	81,454	88,565	95,756	102,866	109,818
Blaine	4,959	5,328	5,711	6,085	6,440
Everson	2,321	2,579	2,870	3,189	3,536
Ferndale	10,396	11,763	13,146	14,514	15,851
Lynden	10,186	11,684	13,191	14,684	16,153
Nooksack	997	1,169	1,373	1,610	1,881
Sumas	1,032	1,137	1,255	1,383	1,521
Columbia Valley	2,628	3,104	3,603	4,089	4,545
Point Roberts	1,351	1,448	1,550	1,650	1,743
Birch Bay	4,721	5,265	5,835	6,391	6,912
Unincorporated Areas	53,425	55,937	58,558	61,115	63,528
<b>Whatcom County</b>	<b>173,470</b>	<b>187,979</b>	<b>202,848</b>	<b>217,576</b>	<b>231,928</b>

Unemployment rates are high in Washington, which will undoubtedly reduce immigration and slow population growth. Population growth in Whatcom County has historically behaved similarly to that of the State of Washington. The high rate of growth that occurred in Whatcom County during the late 1990's will continue to decline. Expected growth rates of individual areas are shown in Table 3. The largest growth rates are expected in Nooksack and Columbia Valley. Overall, the trend is towards moderate growth, which decreases slightly over the next twenty years.

**Table 3: Projected Growth Rates**

Jurisdictions	1990-2000	2002-2007	2007-2012	2012-2017	2017-2022
Bellingham	2.45%	1.7%	1.6%	1.4%	1.3%
Blaine	3.05%	1.4%	1.4%	1.3%	1.1%
Everson	2.51%	2.1%	2.2%	2.1%	2.1%
Ferndale	3.58%	2.5%	2.2%	2.0%	1.8%
Lynden	4.06%	2.8%	2.5%	2.2%	1.9%

<b>Jurisdictions</b>	<b>1990-2000</b>	<b>2002-2007</b>	<b>2007-2012</b>	<b>2012-2017</b>	<b>2017-2022</b>
Nooksack	3.81%	3.2%	3.3%	3.2%	3.2%
Sumas	2.31%	2.0%	2.0%	2.0%	1.9%
Columbia Valley	18.12%	3.4%	3.0%	2.6%	2.1%
Point Roberts	3.55%	1.4%	1.4%	1.3%	1.1%
Birch Bay	7.10%	2.2%	2.1%	1.8%	1.6%
Unincorporated Areas	1.98%	0.9%	0.9%	0.9%	0.8%
<b>Whatcom County</b>	<b>2.70%</b>	<b>1.6%</b>	<b>1.5%</b>	<b>1.4%</b>	<b>1.3%</b>

*The Whatcom County EMS strategic planning committee recommends collecting “population served” data for each fire protection district or department and performing population projections.* Population projections are a critical component for future planning. Because population directly affects demand, workload, department resources, and ultimately cost, it should be looked at closely in each department.

## **History of Emergency Medical Services in Whatcom County**

Emergency medical services are provided by a two-tiered system. Fire departments provide medical first response and the Bellingham Fire Department provides emergency transport, operating as “Whatcom Medic One”, the official designation of the ambulance service. Many of the other fire departments have ambulances of their own, but only provide transport when necessary at the Basic Life Support or BLS level. Advanced Life Services (ALS) is also provided by way of paramedics assigned to some engine companies in the City of Bellingham. Cascade Ambulance, a private transport company, has a role in the Emergency Medical Services System as well, providing inter-facility, nursing home and other non-emergency transport. They do an excellent job of providing these services. During the winter months and ski season, the Ski Patrol provides basic life support and first aid to Mt. Baker. Airlift Northwest, the helicopter service, provides aeromedical transport throughout Whatcom County.

Created in 1974, this system blends the capabilities of public and private sectors and has remained in similar form since then. Prior to 1974, private ambulance companies operated by funeral homes and other private entities provided EMS transport. When private industry was no longer available to provide transportation services, the formation of the current Emergency Medical Services System began. Strong efforts from many helped implement the current EMS strategies and plans.

***The Greater EMS System*** – Whatcom County EMS is the centerpiece of a coordinated system of pre-hospital emergency care linked to the County’s single emergency department, St. Joseph’s Hospital.

The paramedic-training program is a Nationally Accredited, State-Certified program. The course is run through the Bellingham Technical College and BFD, which includes didactic and classroom instruction, skill training, hospital rotations, and ride-along time in the 2800 hours of training.

The paramedics practice medicine in the field under standing orders from their City of Bellingham fire-based Medical Program Director (MPD), who is also the County Medical Program Director, as well as from on-line medical control delivered by emergency medicine physicians from the hospital.

Firefighter emergency medical technicians (EMTs) and first responders from each of the fire departments located throughout Whatcom County provide Basic Life Support, or BLS. These services include basic first-aid, including CPR and Automated External Defibrillation (AED). EMT’s in Whatcom County also provide advanced airway procedures, a skill not practiced by traditional EMT’s. BLS is supported by a combination of County, City, and Fire District operating revenues. A goal in the future is to have some BLS costs supplemented with County EMS funding from an EMS tax levy.

One thing that differentiates the emergency medical services system in Whatcom County from its counterparts across the country is the quality, vitality, and thoroughness of its medical control. For such a varied geographic area, Whatcom County and the City of Bellingham have perhaps one of the most intense, aggressive, and sophisticated physician involvements in EMS in the nation. The now routine direct telephone involvement of the MPD, and the close relationship he has fostered with each of his paramedics is unequalled in most municipalities.

Among the system’s greatest assets are:

- A stable, fire-based EMS system. The use of fire suppression units can frequently arrive at the scene of emergencies before an ambulance and provide adequate resources. Because there are more of them, they are “out of service” on calls less often than ambulances, and they are better distributed geographically within the service area than the ambulances.

- Highly trained paramedics, with excellent medical education. Their experience on a regular basis develops a corps of personnel with good medical skills and high competence. They are extensively trained in advanced cardiac life support, surgical airway techniques, intravenous access, cardiology, pharmacology, and obstetrics.
- A single ALS transport agency. The ALS transport provider, Whatcom Medic One, provides a high level of care to all ALS and BLS patients throughout the County. A single ALS agency also provides uniform training, protocols, medical direction, quality assurance, and continuous improvement.
- Sophisticated medical direction. It has brought excellence to the practice of emergency medical care through its many programs that begin with the paramedic just out of initial training and provide a significant amount of recurring educational opportunities.

## Current EMS Approach

Emergency Medical Services in Whatcom County are provided through a combination of career and volunteer emergency medical technicians (firefighters) and paramedics, not uncommon for an urban/suburban/rural community. The Medical Program Director, Dr. Marvin Wayne, oversees all of the 33 paramedics in the County, including training, protocols, and standard operating procedure guidelines. All are members of the Bellingham Fire Department. Several also volunteer with some of the County fire districts, providing them with the ability to provide ALS first response. These career paramedics augment the over 600 volunteers within the County who operate out of 17 fire protection districts and two incorporated cities. Many of the departments, including Fire Protection Districts 3, 5, 7, and 13 have combination fire departments.<sup>3</sup> Each local fire protection district elects its commissioners, who, in-turn, selects its fire chief.

At present, the Bellingham Fire Department provides all ALS transport and most BLS transport. Because the EMS system does not employ a tiered response in which the ambulances dispatched to an emergency may be ALS or BLS, all patients are transported at the ALS level with one or two paramedics. Occasionally a local fire department will provide BLS EMS transport if necessary. EMS is delivered by fire suppression units as

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<sup>3</sup> Fire Districts 3, 5, and 13 have created a “*co-op*” and become “North Whatcom Fire and Rescue Service.” The theory behind the merger was that service delivery would be more efficient, if each fire district cooperated.

first responders, as well as the Bellingham Fire Department medic units. This use of fire suppression units on medical assignment has become common practice throughout North America.

Fire suppression units frequently arrive at the scene of an emergency before an ambulance. Because there are more of them, they are “out of service” on calls less often than ambulances, and they are better distributed geographically within the service area than the ambulances. The Journal of Emergency Medical Services (JEMS), *200 City Survey* February 2002 reports that 96 percent of the top 200 cities surveyed (191 fire departments in large urban areas) provide EMS First Response. This strategic plan supports keeping a fire department-based EMS system.

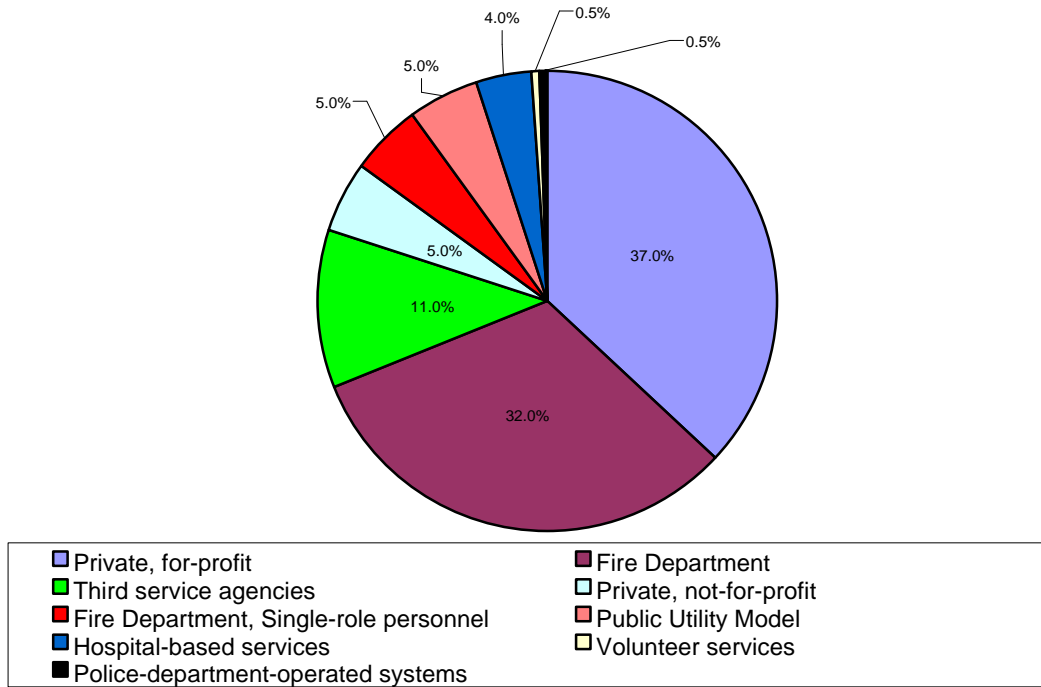
The use of fire suppression apparatus as part of the EMS system has steadily gained acceptance in the United States since the mid 1980s. The “First Response” concept evolved out of the need to get trained medical responders within the first few minutes after a victim’s heart stops beating. Initiating resuscitation efforts within this short 4 – 6 minute window with basic CPR and now Automated External Defibrillation (AED) gives the victim of cardiac arrest a greater chance of survival.

Most municipalities, as evidenced by the JEMS survey, have chosen to utilize their fire department personnel as EMS providers at least at the First Responder level. A major factor in the introduction of this now widely accepted practice was the decline in the number of fire suppression calls. Cities are often reluctant to reduce their fire suppression capabilities as fires decrease because even if these capabilities are needed less often, they are still needed to deal with structure, vehicle, and other fires when they occur. To improve productivity and still have a strong firefighting capability, the fire units have assumed a new and valuable role as First Responders in the EMS system. It makes sense to attempt to make even better use of this capacity in new and innovative ways that improve life safety service to the citizens and further improve productivity of the fire departments. The County and the City of Bellingham have been trendsetters, providing a high level of fire-based EMS for nearly 30 years.

The Fire Department-based EMS delivery system is one of the two predominant models employed by the 200 largest American cities. It is used in 64 (32 percent) cities, as shown in Figure 2. Including fire department, single-role providers, 37 percent of fire departments provide EMS transport. The other leading model is for-profit ambulance companies. The most desirable feature of the fire department-based delivery model is the

ability to use one workforce, one-dispatch mechanism, and one housing infrastructure to achieve the goals of the two distinct services.

**Figure 2: Medical Transportation Providers by Organizational Type<sup>4</sup>**



Fire departments also provide EMS because EMS is a logical counterpart of firefighting; the infrastructure required to deliver EMS is essentially the same as that required to fight fires. With decreasing numbers of fire calls, most fire departments have sufficient slack in fire suppression function to allow fire apparatus to respond on EMS calls without a significant adverse impact on fire suppression preparedness or delivery. Essentially, having fire apparatus provide medical first response allows a fire department to separate the treatment component of EMS from the transport component. Having the two services together under one umbrella often results in an even greater increase in productivity, allowing a substantial force to be available to fight an occasional fire, while providing a major public safety function between fires, and collecting the revenues from transport.

**Staffing** – As mentioned above, the Bellingham Fire Department employs 33 full time paramedics. The minimum number on duty each day is 6. The career staff provides

<sup>4</sup> Source: *JEMS Magazine*, “Snapshot of American EMS: 200-City Survey,” February 2002, Vol. 27, No. 2

emergency medical services throughout Whatcom County 24 hours a day, 7 days a week, from 4 stations. The Bellingham Fire Department provides EMS first responder services to the areas within the city limits. All other fire protection districts or local fire departments provide medical first response, mostly with volunteers. Volunteers are the exclusive providers for all of the fire protection districts with the exception of 3, 5, 7, and 13, which are combination departments (part career, part-volunteer). Some of those all-volunteer stations employ a full-time, paid fire chief and/or one other full-time person to run calls during the daytime.

During the past 20 years, volunteer fire departments across North America have experienced a sharp decline in the number of active members. Recruitment and volunteer retention has become a formidable problem. In the US, the number of volunteers has declined 10 percent since 1983 while call volumes have increased 50 – 100 percent in most communities. A significant question facing Whatcom County for the future is whether the volunteer membership will be large and strong enough to handle the increasing call volume and anticipated growth (a topic that is discussed in the Strategic Plan.) Volunteerism is a great cost-saving opportunity.

**Workload** – Table 4 shows the historical EMS Ticket data on calls responded to in the County from 1997 to 2001.<sup>5</sup> Of the 9,333 EMS tickets in 2001, 5,038 were located in the City of Bellingham (approximately 54 percent) and 4,285 were located in other areas throughout the County. As a whole, the County has experienced approximately a 19 percent increase of incidents since 1997. The County should continue to expect an increase in the number of calls, but at a slower rate.

**Table 4: EMS Ticket Workload**

Year	Population	Population Growth	Tickets	Ticket Increase
1997	157,071		7,961	
1998	160,667	2.3%	8,922	12.1%
1999	163,774	1.9%	8,870	- 0.06%
2000	166,814	1.9%	9,307	4.9%
2001	170,600	2.3%	9,460	1.6%

<sup>5</sup> An EMS Ticket is a write-up of service provided to a patient, and is equivalent to the calls responded to.

## Future Demand Projection

The number of Emergency Medical Service incidents over the next 20 years can be estimated based on population growth, and assumptions about the per capita usage of the system.

One method for estimating the number of incidents in a future year is to assume the current per capita demand for service will remain constant. In that case, demand would grow in proportion to population growth only. However, in many cases, per capita demand has been shown to increase over time. This increased utilization of services per capita is often attributed to population aging or an increase in population's confidence in or awareness of a service. Cellular phones also have led to increased 911 calls, and the cost of medical care has led many especially people of lower income to call 911 instead of their doctor. The numbers of incidents predicted for a future year will often fall short of the true value if growth in usage is not taken into account.

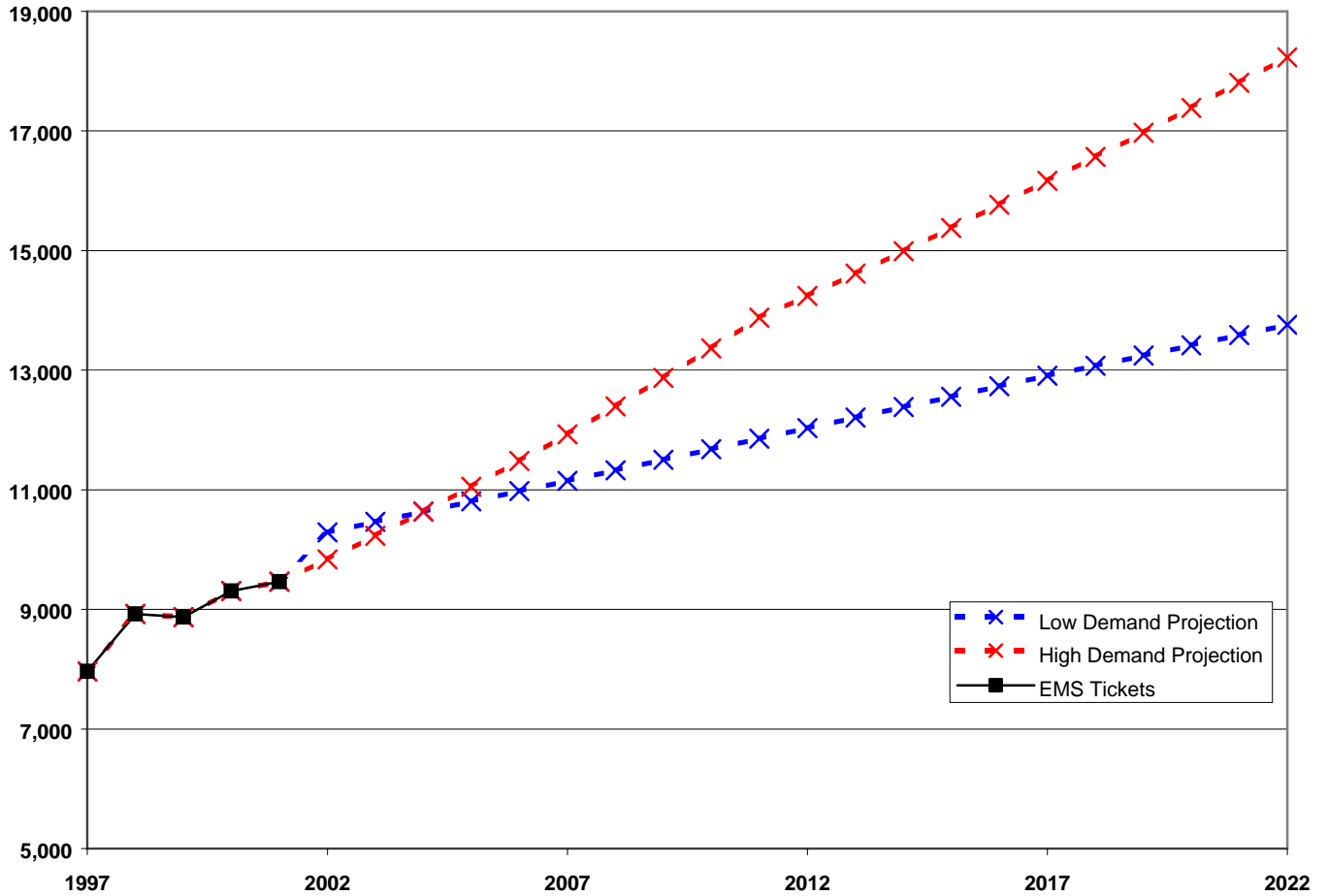
A second projection method assumes that per capita demand will grow like the trend over the past decades, exponentially. The number of incidents estimated in this fashion will tend to be above the true value if per capita demand levels off. With a high degree of certainty, the number of incidents in a given year can be predicted to fall between these two functions – level per capita demand and continuation of the historical trend of increasing per capita demand.

The population data used for these estimates was drawn from several sources, including the 1990 and 2000 decennial census publications, the Whatcom County Office of Financial Management and Planning Department, and the ECONorthwest Final Report. Incident data is based on information obtained from an in-depth analysis of information provided by the Bellingham Fire Department.

**Projected EMS Incidents** – Table 4 (above) showed that the demand for EMS between 1997 and 2001 in Whatcom County increased by approximately 19 percent, which averages approximately a 3.5 percent increase per year. The top curve in Figure 3 assumes that this upward trend in per capita demand continues and population grows modestly (using a straight line extrapolation from Planning Department projections).

The bottom curve assumes per capita demands stays level, and hence demand increases just proportional to population increases. Per capita demand is the number of incidents divided by the population of a given year.

**Figure 3: EMS Ticket Demand Projection**



The actual number of incidents can be expected to fall somewhere between the moderate and high growth forecasts. The divergence between the forecasts amounts to about 4,500 incidents by 2022. These forecasts can be used for future planning and continuously adjusted and analyzed to monitor per capita demand and the growth in population. The forecast demand is used to provide information on the growing demand throughout the County and to emphasize the significant impact on the EMS system. Whichever way it goes, demand will go up and has an impact on the ability of the units and departments to handle demand.<sup>6</sup>

<sup>6</sup> The “low demand” projection is higher than the “high demand” in the first year projected because of a one-time only adjustment made in the low demand projection to account for a year’s continuation of the current per capita trend increase.

## Intra-County Comparisons

This section provides an overview of data on each of the incorporated cities and other unincorporated areas of the county, including population and other relevant characteristics about the area (e.g. Assessed Valuation, EMS calls, etc.). It also discusses how the 17 Fire Protection Districts and small cities of the County statistically compare to the City. To stimulate thinking, this section also shows comparisons if a “co-op” were formed among the 17 fire protection districts. Besides the obvious differences in land area and population size, a County “co-op” statistically would compare closely to Bellingham in many of the important performance measures.

There are seven incorporated areas within the County. The City of Bellingham, which has the largest population, serves as the County seat. Five out of the seven incorporated areas of the County outsource fire protection services to the local Fire Protection District fire department. Table 5 shows the department or district service each area.

**Table 5: Department Information**

<b>Jurisdiction</b>	<b>Names of Departments or Stations</b>
<b>Incorporated Cities</b>	
Bellingham	Bellingham Fire Department
Blaine	Served by FPD # 13
Everson	Served by FPD # 1
Ferndale	Served by FPD # 7
Lynden	Lynden Fire Department
Nooksack	Served by FPD # 1
Sumas	Served by FPD # 14
<b>Fire Protection Districts</b>	
Fire District # 1	Everson/Nugents Corner
Fire District # 2	Geneva/Sudden Valley
Fire District # 3	N. Whatcom Fire and Rescue Services - Laurel/Northwood/Delta Line/Wiser Lakes
Fire District # 4	E. Bakerview/Agate Bay/Van Wyk
Fire District # 5	N. Whatcom Fire and Rescue Services - Point Roberts
Fire District # 6	Chuckanut
Fire District # 7	Ferndale/North Bellingham/Enterprise/Whitehorn
Fire District # 8	Bennett/Home Rd/Curtis/Gooseberry/Airport
Fire District # 9	W. Lk Samish/Samish Way
Fire District # 10	Yew Street Road
Fire District # 11	Lummi Island
Fire District # 13	N. Whatcom Fire and Rescue Services - Custer/Birch Bay/Haynie/Semiahmoo

Jurisdiction	Names of Departments or Stations
Fire District # 14	Sumas/Kendall/Welcome
Fire District # 16	Acme/Van Zandt
Fire District # 17	Sandy Point
Fire District # 18	S. Lake Whatcom
Fire District # 19	Glacier

To gauge a fire department's delivery component, it is often helpful to look at other departments that are similar in size, services, and complexity, and how they compare in the amount of resources provided for the service area it protects. When far from the mean, one asks why. There may be good reason for not being close to the mean; these comparisons just provide a good starting point for raising questions.

While intra-county comparisons are subject to misinterpretations of data that cannot be perfectly compared or defined, and different levels of service, different treatments, or loading of costs, they are still valuable. Such benchmarking is useful as an input to the planning process, though not necessarily indicative of the quality of services provided by any department. They are simply a point of reference used to improve the understanding of a department. It is not the intent of this section to make definitive judgments or implications regarding the quality of service (favorable or otherwise) provided by any department or its comparison group. The comparisons can be useful for identifying trends as well as issues to be further explored.

Sources of comparative data used here include direct contact with the departments, surveys, U.S. Census 2000, department web pages, information provided by the Strategic Planning Committee, and TriData staff research. Staff from North Whatcom Fire and Rescue performed additional research.

***The Whatcom County EMS strategic planning committee recommends collecting performance measure data and performing intra-county comparisons annually.*** The Bellingham Fire Department and departments throughout Whatcom County should collect performance measure data to gauge each fire department's delivery component. This data should help in planning more efficiently and effectively for the future by flagging problem areas.

**Station Coverage** – Two rough indicators of station workload are the square miles protected per fire/EMS station and the number of citizens protected per station. In an urban setting with a high population density, stations will be more closely located than in rural and suburban areas, and thus will protect fewer square miles but possibly more

people. The average population protected per station, therefore, is partly a function of population density and partly an indirect measure of the level of service, since the number of stations in a given area is related to response times.

Whatcom County, including the City of Bellingham, protects 12.2 square miles per station. The square miles protected for other jurisdictions in this comparison group varies from as low as 2.5 square miles in fire protection district 5, to a high of 35 square miles in fire protection district 14. Table 6 shows station coverage comparisons.

**Table 6: Square Miles Per Station**

<b>Jurisdiction</b>	<b>Population Served (2001)</b>	<b>Land Area (Square Miles)</b>	<b>Stations*</b>	<b>Square Miles/Station</b>
Fire District # 14	5,000	70.0	2	35.0
Fire District # 3	15,000	93.0	5	18.6
Fire District # 16	1,800	34.0	2	17.0
Fire District # 13	12,000	49.0	3	16.3
Fire District # 11	750	16.0	1	16.0
Fire District # 4	9,500	44.0	3	14.7
Fire District # 7	17,500	7	6	12.4
Fire District # 6	800	12.0	1	12.0
Fire District # 19	150	10.0	1	10.0
Fire District # 8	13,000	45.5	5	9.1
Fire District # 1	8,273	75.0	2	37.5
Fire District # 2	6,500	15.0	2	7.5
Lynden	9,285	6.5	1	6.5
Bellingham	68,890	27.6	6	4.6
Fire District # 9	2,000	8.0	2	4.0
Fire District # 10	900	3.0	1	3.0
Fire District # 17	2,000	6.0	2	3.0
Fire District # 18	3,700	6.0	2	3.0
Fire District # 5	1,340	4.9	2	2.5
<b>County Total</b>	<b>176,387</b>	<b>600</b>	<b>49</b>	<b>12.2</b>

\*Source: GIS Department, Whatcom County Map

Whatcom County, excluding the City of Bellingham, protects approximately 13.3 square miles per station. The square miles protected in Bellingham are 4.6. Table 7 shows station coverage comparisons. In Bellingham, which is a more urban setting, stations are more closely located and the City has a higher population density.

**Table 7: Square Miles Per Station (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Population Served (2001)	Land Area (Square Miles)	Stations	Square Miles/Station
Bellingham	68,890	27.6	6	4.6
Whatcom County	101,710	572.4	43	13.31

**Population Served per Station** – More specifically, this measure is the approximate resident population protected per station. It does not include visitors or workers who are not residents (because that data is not known by district). This comparison is another indicator of station coverage.

Table 8 shows population served per station. It varied from a low of 150 in Fire Protection District 6 to a high of nearly 11,500 in Bellingham. The County protects approximately 3,600 people per station, on average, but the distribution is highly skewed.

**Table 8: Population Per Station**

Jurisdiction	Population (2001)	Land Area (Square Miles)	Stations	Pop/Station
Fire District # 19	150	10.0	1	150
Fire District # 5	1,340	4.9	2	670
Fire District # 11	750	16.0	1	750
Fire District # 6	800	12.0	1	800
Fire District # 10	900	3.0	1	900
Fire District # 16	1,800	34.0	2	900
Fire District # 9	2,000	8.0	2	1,000
Fire District # 17	2,000	6.0	2	1,000
Fire District # 18	3,700	6.0	2	1,850
Fire District # 14	5,000	70.0	2	2,500
Fire District # 8	13,000	45.5	5	2,600
Fire District # 7	17,500	73.0	6	2,917
Fire District # 3	15,000	93.0	5	3,000
Fire District # 4	9,500	44.0	3	3,167
Fire District # 2	6,500	15.0	2	3,250
Fire District # 13	12,000	49.0	3	4,000
Fire District # 1	8,273	75.0	2	4,137
Lynden	9,285	6.5	1	9,285
Bellingham	68,890	27.6	6	11,482
<b>County Total</b>	<b>176,387</b>	<b>600</b>	<b>49</b>	<b>3,619</b>

Table 9 shows population served per station with everything outside of Bellingham confined. It varied from 11,481 per station in Bellingham to 2,365 population per station for the rest of the County.

**Table 9: Population Per Station (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Population Served (2001)	Land Area (Square Miles)	Stations	Pop/Station
Bellingham	68,890	27.6	6	11,481
Whatcom County	101,710	572.4	43	2,365

**Assessed Valuation (Fire Protection Districts)** – The Assessed Valuation (AV) is the value of real estate for tax purposes. The overall amount of real estate taxes collected in each community is determined by all the entities providing services in the community, such as fire services, schools, parks, and library districts. The assessed valuation of property usually is the basis for the share to be paid of those taxes. In Whatcom County, Bellingham has the highest AV percentage, 37.5 percent of the County's total AV. Table 10 shows the comparisons.

**Table 10: Assessed Valuation (Fire Districts and City's)**

Jurisdiction	Assessed Valuation (2001)*	2002 Levy (\$ per \$1,000 AV)	Tax	AV percentage of county
Bellingham	\$4,488,602,150	2.31614	\$10,396,230.98	37.5%
Fire District # 7	1,345,757,643	1.03807	1,396,990.64	11.2%
Fire District # 3	703,878,177	1.36627	961,687.64	5.9%
Fire District # 13	684,358,102	1.27000	869,134.79	5.7%
Fire District # 4	618,583,001	1.43253	886,138.71	5.2%
Lynden	572,801,518	2.37159	1,358,450.35	4.8%
Ferndale	475,833,453	2.30497	1,096,781.83	4.0%
Fire District # 2	435,919,648	1.37408	598,988.47	3.6%
Blaine	404,556,014	1.27000	513,786.14	3.4%
Fire District # 8	347,226,560	1.40449	487,676.23	2.9%
Fire District # 1	325,347,517	1.00000	325,347.52	2.7%
Fire District # 14	247,149,075	1.00000	247,149.08	2.1%
Fire District # 5	247,764,501	0.77449	191,891.13	2.1%
Sumas	139,186,783	3.10000	431,479.03	1.2%
Fire District # 11	132,589,558	0.85868	113,852.00	1.1%
Fire District # 18	115,071,657	0.93433	107,514.90	1.0%
Fire District # 17	116,128,602	0.83908	97,441.19	1.0%
Fire District # 9	120,390,242	0.61716	74,300.04	1.0%
Fire District # 6	109,661,951	0.99377	108,978.76	0.9%
Fire District # 10	97,461,890	0.83065	80,956.72	0.8%
Everson	69,991,339	3.10000	216,973.15	0.6%
Fire District # 16	75,688,057	0.84579	64,016.20	0.6%
Fire District # 19	57,760,712	1.00000	57,760.71	0.5%
Nooksack	30,669,059	2.50873	76,940.39	0.3%
<b>County Total</b>	<b>\$11,962,377,209</b>	<b>1.43962</b>	<b>\$20,760,466.60</b>	<b>100.0%</b>

\*Source: 2002 Annual Tax Booklet Whatcom County Assessor

If an EMS tax levy were passed, the assessed valuation of property would determine the share of those monies. Whatcom County and the City of Bellingham collect nearly the same amount of tax from the levy. The County has a larger percentage of AV than Bellingham and a higher assessed valuation. Therefore, an EMS tax levy will yield more monies from the county citizens. Equally important to consider are future annexations by Bellingham, which is likely to increase its AV and decrease County AV. Table 11 shows these comparisons.

**Table 11: Assessed Valuation (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Assessed Valuation (2001)	2002 Levy (\$ per \$1,000 AV)	Tax	AV percentage of county
Bellingham	\$4,488,602,150	2.31614	\$10,396,231	37.5%
Whatcom County	\$7,473,775,059	1.40151	\$10,474,554	62.5%

**EMS Tax Levy** – Table 12 shows the following districts that currently have EMS levies.

**Table 12: EMS Tax Levy**

Jurisdiction	Assessed Valuation (2001)	2002 EMS Levy	Tax
Fire District # 6	\$116,165,126	0.25	\$28,769.46
Fire District # 9	124,964,833	0.28	35,185.10
Fire District # 11	135,254,018	0.19	25,496.73
Fire District # 14	254,783,150	0.25	63,695.79
Fire District # 16	78,034,222	0.25	19,508.56
Fire District # 18	117,099,157	0.49	56,856.32
Fire District # 19	57,041,663	-	-

\*Source: 2002 Annual Tax Booklet Whatcom County Assessor

**Staffing** – Table 13 shows different levels of staffing in the comparison group communities. Although a few of these departments are full-time career or combination departments, the majority are volunteer only. Some of these volunteer departments may have a full-time, paid fire chief and one other career staff member.

The County, including Bellingham, has an average of 1.16 sworn uniformed (paid) personnel per 1,000 persons and 3.5 volunteers per 1,000 population. The number of volunteers, however, is the total number of members, not necessarily active or engaged in EMS medical first response or fire suppression.

**Table 13: Staffing**

Jurisdiction	Paid Uniform Staffing	Volunteers	Volunteer/1000 Population	Uniformed Personnel/1000 pop
Bellingham	139	-	-	2.02
Fire District # 17	4	12	6	2.00
Fire District # 13	22	88	6	1.83
Fire District # 11	0.83	27	36	1.11
Fire District # 7	16	65	3.7	0.91
Fire District # 2	3	39	9.8	0.75
Fire District # 5	1	30	22.4	0.75
Fire District # 6	0.5	17	21.3	0.63
Fire District # 16	1	14	8	0.56
Fire District # 3	5	71	4.7	0.33
Lynden	3	40	4.3	0.32
Fire District # 8	4	37	2.9	0.31
Fire District # 18	1	14	4	0.27
Fire District # 4	2	45	4.74	0.21
Fire District # 14	1	46	9	0.20
Fire District # 1	-	29	3.5	-
Fire District # 10	-	17	19	-
Fire District # 19	-	10	67	-
Fire District # 9	-	12	6.0	-
<b>County Total</b>	<b>203</b>	<b>613</b>	<b>3.5</b>	<b>1.16</b>

The County, outside of Bellingham, has an average of 0.63 sworn uniformed (paid) personnel per 1,000 persons and 6.03 volunteers per 1,000 population as shown in the next table. Bellingham, an all-career department, has 2.02 uniformed personnel per 1,000. A significant question facing the County for the future is whether the volunteer membership will be large and strong enough to handle the increasing call volume and anticipated growth in the County. To provide the necessary response coverage, each of the stations that are “all-volunteer” will, in due time, have to be staffed with sufficient personnel to allow adequate duty shift coverage without placing too much burden on individual members. Table 14 shows staffing comparisons.

**Table 14: Staffing (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Paid Uniform Staffing	Volunteers	Volunteer/1000 Population	Uniformed Personnel/1000 pop
Bellingham	139	-	-	2.02
Whatcom County	64	613	6.03	0.63

**Mix of Calls** – Table 15 shows a view of the balance of calls between EMS and fire. The number of incidents relative to population is an important measure of demand. EMS calls constitute a larger percentage of the calls in virtually all fire departments. The percentage of EMS calls throughout the County varied from a low of 52 percent in FPD 6 to a high of 85 percent in FPD 17.

**Table 15: Mix of Calls**

Jurisdiction	Total Incidents (2001)	Fire Calls*	EMS Calls	Percent Fire	Percent EMS
Fire District # 17	85	13	72	15%	85%
Lynden	605	115	490	19%	81%
Fire District # 14	462	93	369	20%	80%
Fire District # 1	447	110	337	25%	75%
Fire District # 8	715	184	531	26%	74%
Bellingham	6,585	1,827	4,758	28%	72%
Fire District # 5	140	40	100	29%	71%
Fire District # 4	406	119	287	29%	71%
Fire District # 13	1,026	330	696	32%	68%
Fire District # 9	147	49	98	33%	67%
Fire District # 7	1,253-	470	783	38%	62%
Fire District # 10	45	17	28	38%	62%
Fire District # 11	45	17	28	38%	62%
Fire District # 2	272	108	164	40%	60%
Fire District # 18	98	40	58	41%	59%
Fire District # 6	71	34	37	48%	52%
Fire District # 3	-	-	-		
Fire District # 16	-	-	-		
Fire District # 19	-	-	-		
<b>County Total</b>	<b>12,402</b>	<b>3,566</b>	<b>8,836</b>	<b>29%</b>	<b>71%</b>

\*Fire Calls – all non-EMS calls (false alarms, mutual aid, other, etc.)

\*\*Blaine, Everson, Ferndale, Nooksack, and Sumas are served by other FPD’s

Table 16 shows the mix of calls between Bellingham and Whatcom County. The percentage of fire and EMS calls in both the County and City is nearly identical.

**Table 16: Mix of Calls (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Total Incidents (2001)	Fire Calls	EMS Calls	Percent Fire	Percent EMS
Bellingham	6,585	1,827	4,758	28%	72%
Whatcom County	5,817	1,739	4,078	30%	70%

**Calls per Capita** – Table 17 shows the calls per 1,000 population, an important measure of demand. The County has a demand of 70 calls per 1,000 population. This varied throughout the jurisdictions within the County from a low of 26 in FPD 18 to a high of 104 in FPD 5.

**Table 17: Calls Per Capita**

<b>Jurisdiction</b>	<b>Total Incidents (2001)</b>	<b>Fire Calls/ 1,000 Pop</b>	<b>EMS Calls/ 1,000 Pop</b>	<b>All Calls/ 1,000 Pop</b>
Fire District # 5	140	30	75	104
Bellingham	6,585	27	69	96
Fire District # 14	462	19	74	92
Fire District # 6	71	43	46	89
Fire District # 13	1,026	28	58	86
Fire District # 9	147	25	49	74
Fire District # 7	1,253	27	45	72
Fire District # 2	272	27	41	68
Lynden	605	12	53	65
Fire District # 11	45	23	37	60
Fire District # 8	715	14	41	55
Fire District # 1	447	13	41	54
Fire District # 10	45	19	31	50
Fire District # 4	406	13	30	43
Fire District # 17	85	7	36	43
Fire District # 18	98	11	16	26
Fire District # 3	-	-	-	-
Fire District # 16	-	-	-	-
Fire District # 19	-	-	-	-
<b>County Total</b>	<b>12,402</b>	<b>20</b>	<b>50</b>	<b>70</b>

\*Fire Calls – all non-EMS calls (false alarms, mutual aid, other, etc.)

\*\*Blaine, Everson, Ferndale, Nooksack, and Sumas are served by other FPD's

Table 18 shows the calls per 1,000 population for Bellingham vs. the rest of Whatcom County. The City, with 96 calls per capita, responds to approximately 40 more calls per 1,000 population, a 68 percent higher rate of demand than the more rural areas. The City and County also differ in total incidents by approximately 765 calls. This is actually good news because the County uses the EMS system less frequently. There could be several reasons for this phenomenon, including a healthier population, fewer elderly and indigent people throughout the county, less abuse of the system, and a more independent, self-sufficient attitude common to many people in rural areas.

**Table 18: Calls Per Capita (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Total Incidents (2001)	Fire Calls/ 1,000 Pop	EMS Calls/ 1,000 Pop	All Calls/ 1,000 Pop
Bellingham	6,585	27	69	96
Whatcom County	5,817	17	40	57

**EMS Tickets** – Table 19 shows the EMS tickets per 1,000 population. Overall, demand averaged 53 EMS tickets per 1,000 population. The number of tickets per 1,000 varied from a low of approximately 7 in FPD 5, which does not handle much EMS yet, to a high of 523 in FPD 14. FPD 19 has the second highest number of EMS tickets because many are from the non-residential population skiing at Mt. Baker.

**Table 19: EMS Tickets<sup>7</sup>**

Jurisdiction	EMS Tickets (2001)	EMS Tickets/1,000 Pop
Fire District # 14	263	523
Fire District # 19	74	493
Bellingham	5,038	73
Fire District # 10	57	63
Fire District # 13	665	55
Lynden	479	52
Fire District # 16	83	46
Fire District # 7	738	42
Fire District # 11	31	41
Fire District # 8	531	41
Fire District # 1	326	39
Fire District # 2	151	38
Fire District # 4	287	30
Fire District # 6	24	30
Fire District # 3	418	28
Fire District # 17	52	26
Fire District # 9	48	24
Fire District # 18	59	16
Fire District # 5	9	7
<b>County Total</b>	<b>9,333</b>	<b>53</b>

As shown in Table 20, the City of Bellingham is the more frequent user of the Medic One system and EMS transport. In 2001 the City had 5,038 EMS tickets, or roughly 54 percent of all EMS tickets.

<sup>7</sup>Source: Medic One Billing Department

**Table 20: EMS Tickets (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	EMS Tickets (2001)	EMS Tickets/1,000 Pop
Bellingham	5,038	73
Whatcom County	4,295	42

**EMS Units and Staffing** – Table 21 shows the number of ambulances owned and operated used across the various jurisdictions. They total 44. Most of the departments have EMS transport capabilities. These capabilities are supplemented with air transport and a private transport company, if necessary.

Also shown is the number of paramedics. There are 33 members of the Bellingham Fire Department. Of these, 12 volunteer with some of the County fire districts, providing them with the ability to provide ALS first response.

All firefighters from various fire districts or departments are trained, at a minimum, to the first responder level. Bellingham firefighters provide EMT first response BLS care within the City. All City and County fire response agencies have personnel trained to provide defibrillation.

**Table 21: EMS Resources**

Jurisdiction	Ambulances	Paramedics
Bellingham	9	33
Fire District # 3	5	[2]*
Fire District # 14	4	[2]
Fire District # 1	3	[2]
Lynden	2	[2]
Fire District # 2	2	[2]
Fire District # 4	1	[1]
Fire District # 11	1	[1]
Fire District # 13	6	-
Fire District # 8	3	-
Fire District # 5	2	-
Fire District #7	2	-
Fire District # 6	1	-
Fire District # 9	1	-
Fire District # 17	1	-
Fire District # 18	1	-
Fire District # 10	-	-
Fire District # 16	-	-
Fire District # 19	-	-
<i>County Total</i>	<i>44</i>	<i>33</i>

\* Some of the 33 who work for Bellingham are also members of the volunteer departments and are sometimes there.

Throughout the County are 35 ambulances, which are seldom used for transport purposes. As various departments in the County continue to grow, and as call volume and demand increase, BLS transport should be considered. Table 22 summarizes the EMS resources in Bellingham vs. the rest of the County.

**Table 22: EMS Resources (Bellingham vs. Rest of Whatcom County)**

Jurisdiction	Ambulances	Paramedics
Bellingham	9	33
Whatcom County	35	12

**Cost per Capita** – For public managers, a measure of a fire department’s relative cost efficiency is the cost of fire protection per capita. This should be considered relative to the level and quality of service, though it is difficult to make meaningful comparisons of quality. To further complicate comparisons, not all communities account for costs in the same manner. Some do not place vehicle and facility maintenance and amortized replacement costs in the fire department budgets.

The cost per capita of each jurisdiction here was based on the operating budget, not the capital budget, to be more comparable. The operating budget includes personnel services, supplies, building maintenance expenditures, etc., which are annual appropriations for recurring costs that do not depreciate. The operating budgets are typically 85-90 percent of the total budget with apparatus amortized. The capital budgets provide major capital expenditures that have depreciating value and are often paid for through bonds, referendums, and long-term capital improvements programs.

In a typical fire department, salaries account for approximately 90 percent of the budget. Table 23 shows the differences in cost per capita among the districts in the County.

**Table 23: Cost Per Capita**

Jurisdiction	Operating Budget	Cost Per Capita
Fire District # 6	\$137,748	\$172
Blaine	513,786	151
Fire District # 5	191,000	143
Bellingham	9,100,000	132
Fire District # 2	515,071	129
Fire District # 11	75,389	101

<b>Jurisdiction</b>	<b>Operating Budget</b>	<b>Cost Per Capita</b>
Fire District # 10	80,957	90
Fire District # 18	286,953	78
Fire District # 13	882,369	74
Fire District # 1	546,301	66
Lynden	572,932	62
Fire District # 9	109,484	55
Fire District # 7	912,686	52
Fire District # 17	94,000	47
Fire District # 3	644,692	43
Fire District # 8	412,000	32
Fire District # 4	-	-
Fire District # 14	-	-
Fire District # 16	-	-
Fire District # 19	-	-
<b>County Total</b>	<b>\$15,075,367</b>	<b>\$85.71</b>

As shown in Table 24, the City has a higher operating budget than the rest of the County's departments have. The cost to Bellingham is \$132 per person. The major difference in cost is in personnel. All the uniformed firefighters and paramedics in the City are paid employees whereas the majority in the County are volunteers.

**Table 24: Cost Per Capita (Bellingham vs. Rest of Whatcom County)**

<b>Jurisdiction</b>	<b>Operating Budget</b>	<b>Cost Per Capita</b>
Bellingham	9,100,000	\$132
Whatcom County	5,975,367	\$59

### III. DEVELOPMENT OF EMS STRATEGIC PLAN

This section outlines the primary components of the Whatcom County Emergency Medical Services Strategic Plan. The plan reflects many hours of thinking and discussions concerning how EMS should best position itself in the face of challenges and new opportunities before it. In particular, these challenges (as noted in Section I, Background) have resulted in a joint cooperative effort on behalf of the interested parties to develop a strategic plan, which is expected to map the future of EMS throughout Whatcom County.

The Whatcom County Emergency Medical Services Strategic Planning Committee is committed to the plan and to working cooperatively with each other toward its fulfillment.

#### **Purpose of the Plan**

The purpose of the 2002 EMS Strategic Plan is to provide an outline and financial direction for the future of the EMS System in Whatcom County. The plan contains the recommendations from the Whatcom County EMS Strategic Planning Committee and the TriData study team. It reflects the collaborative efforts of the participants involved, represented a variety of interests throughout Whatcom County.

***System Assumptions and Objectives*** – The strategic plan is predicated upon the following requirements and assumptions:

**REQUIREMENTS:**

- 1) Develop a strategic plan for a fire-based emergency medical services *integrated* system.
- 2) Preserve the current culture of excellence.

**ASSUMPTIONS:**

- 1) Some fire protection districts will create “co-ops” or sign interlocal cooperation agreements.
- 2) Funding requires immediate attention.
- 3) The recommendations from this strategic plan are those of the committee.
- 4) Regional delivery and funding decisions will be made cooperatively, balancing the needs of EMS and ALS delivery throughout the County.

## Strategic Plan

**Mission Statement:** Our mission is to provide an integrated system of progressive, compassionate, efficient, and effective emergency medical services throughout Whatcom County.

**Vision:** We envision an integrated and seamless system of emergency medical response and transportation that strives to deliver care that is:

- Timely and responsive;
- High quality and compassionate;
- Cost-effective and affordable;
- Sustainable and achievable.

We will seek clinical excellence, community participation and involvement, and provide excellent leadership to improve the quality of life, health, and safety of all residents and visitors.

### Goals and Objectives

*Solve Funding Problems by an EMS Tax Levy*

*Solve System Coordination Problems*

*Develop Future System Integrations*

*Solve Human Resource Deficiencies*

#### TASKS

- Have council place on ballot
- Assure passage
- Implement

#### TASKS

- Form “Co-op”
- Develop funding distribution plan
- Replicate applicable contract in Medic One Program

#### TASKS

- Coordinate fire district partnerships / “co-op”, where possible
- Review system capabilities and consider an innovative approach to provide rural EMS

#### TASKS

- Develop retention and recruitment programs

## Core Values

We value:

1) **People** –

**Patient** – Whose quality care is the reason the system exists

**Provider** – Whom we empower to provide care

We recognize the diversity and needs of our community and value the individuals who provide care and response.

2) **Teamwork** –

Our people:

i) Demonstrate professionalism

ii) Will be responsible and accountable

iii) Provide quality care

iv) Exhibit ethical conduct and integrity

v) Work together towards a common vision

Working together improves patient care, provides system efficiency, and engenders professionalism.

3) **Leadership** –

Empowerment, education, and integrity

Leaders set the tone by exhibiting responsible, professional, competent behaviors and expectations.

4) **Public Education** –

The system works to educate the public about how to access the system and how they can help themselves and others.

5) **Excellence** –

The result of high intention, continuous improvement, intelligent direction, and seeing obstacles as opportunities.

A commitment to appraise current performance and develop a capacity for change.

## **SWOT Analysis**

SWOT analysis is a widely used approach for starting a strategic planning process. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. The method for analysis is a tool for developing strategies for utilizing strengths and opportunities to overcome weaknesses and eliminate threats.

Strengths and weaknesses are internal and typically current, whereas opportunities and threats are external and often future-oriented. Internal issues are where the focus of change should be. External factors cannot be changed, merely anticipated.

The lists below resulted from the committee. The SWOT analysis is a series of lists with no order, no logic, just lists of topics. This document addresses most of these issues with a logical plan.

### ***Strengths of the Whatcom County EMS System***

It is important to identify the strengths of the Whatcom County EMS System in order to assure it is capable of providing the services necessary, and making sure the strengths are consistent with the issues facing the organization.

#### **STRENGTHS:**

- History of successful system and excellent reputation
- Highly skilled paramedics
- Delivery of high quality patient care
- Collective organization experience and expertise
- Progressive protocols and medical direction
- Dedicated employees
- Strong volunteer support
- Strong community support
- EMS training – paramedics, EMTs, and first responders
- Reliable support staff
- Excellent billing and collection rate
- Enjoys support from County, cities, towns, and unincorporated areas
- Advanced EMS technology and equipment

### ***Weaknesses of the Whatcom County EMS System***

The future performance of the Whatcom County EMS System largely depends on the identification of weaknesses in the System and how they are confronted. These weaknesses, or other areas where the system does not function well or at all, if not addressed, will inhibit future progress and could possibly make or break the future of the Whatcom County EMS System.

#### **WEAKNESSES:**

- Future funding security
- System coordination
- Long ALS ambulance response times to some areas of the County
- Poor distribution of staffing in the County
- Multiplicity of Fire Protection Districts (17 in total)
- Access to distant areas of the County
- Response times to distant areas of the County
- Financial support to the EMS system from the independent small cities
- Strategic locations of stations/apparatus
- Depth of response apparatus (i.e. ALS first response capabilities hardly exist in the County)
- Retention of volunteers
- Lack of daytime staffing in volunteer departments
- No system-wide, cooperative future planning and direction
- Dispatching
- Records management system (access of CAD data)
- Information Management – Inadequate ability to collect statistical data from each department
- Lack of involvement from the County and other departments in EMS

### ***Opportunities for the Whatcom County EMS System***

The potential for future efficiencies and enhancements of the Whatcom County EMS system is a key point of planning. There are many opportunities to alleviate some of the current problems and improve the Whatcom County EMS system.

#### **OPPORTUNITIES:**

- Interlocal Cooperation Agreements, and consideration of future mergers/consolidation
- Strategic placement of ambulances in high growth and high demand areas
- Additional EMS coverage for unprotected areas of the County

- Workforce (paramedics) trained the “Medic One” way, regardless of departmental affiliation
- Expansion of public education
- Important role in prevention
- Improve response time to areas of the County with low call volume and demand (Chase car concept)
- Disaster Preparedness
- Service Opportunities: new roles for the fire protection districts departments, especially providing BLS service and possibly ALS first response
- EMS Council/Advisory Committee
- Centralized medical priority dispatch system
- Volunteer target groups – with the anticipated growth of the county, there may be possibly more people willing to volunteer
- Annexations

***Threats to the Whatcom County EMS System:***

“Threats” are the obstacles facing the County.

**THREATS:**

- Terrorism
- Funding limitations
- Selfishness, not working together
- Loss of volunteers

The findings above were used to help develop the strategic plan that follows.

## IV. CRITICAL ISSUES ANALYSIS

Following the SWOT analysis, the EMS Strategic Planning Committee deliberated about many important issues facing the future of the system over the next fifteen years. This section reports the Committee's central findings, with their rationales.

The committee narrowed the critical list to the following four issues. These are the major issues requiring immediate attention and solutions to maintain excellence for entire Whatcom County EMS system. Other issues are discussed later, in the section entitled "Key Strategic Areas."

1. How best to fund the Medic One Program over the next 6 to 12 years and beyond;
2. How to better provide for EMS system coordination and an equitable distribution of funds;
3. Integration issues facing the system as its first responder departments mature and the incentives for fire district interlocal cooperation agreements;
4. Human resources, specifically volunteer recruitment and retention problems.

The planning committee set the following criteria for the system:

- There should be one combined ALS program for Bellingham and Whatcom County, with single training, medical control, continuing education and recertification components;
- The Medic One Program should remain a fire-based system;
- Current Medic One operational modalities are sound and should remain unchanged;
- Dispatch should remain a countywide operation;
- Current billings and collections for ambulance transport should continue and be an integral part of any funding formula.

## Critical Issue # 1 – Funding

**Problem Statement** –The Whatcom County EMS Strategic Planning Committee members identified future funding for the Medic One program as a significant issue. In fact, it was this issue that led to the formation of the Committee.

Since 1997, the Medic One program expenditures have increased at an average of 11 percent per year, while overall revenues have increased at about 13 percent per year. However, with the increase in Bellingham and the County's contributions, the Committee believes that continued funding for Medic One is a concern because:

- The passage of Initiative 747 limits increases in property tax levies to 1 percent without a public vote;
- The County has increasing costs and an increasing proportion of its budget needed for mandated services that are supported by the County's General Fund; and
- It also is particularly concerned about declining revenues.

This leads to an uncertainty about the long-term ability of both Bellingham and the County to continue funding Medic One in light of the revenue limitations and increasing costs for other services.

Given these constraints on the ability of Bellingham and Whatcom County to continue funding the Medic One program, the Committee believes that alternative funding sources will be needed to support the continuation and improvement of Whatcom County's Medic One program and the entire EMS system. With the current financial situation of the County, it cannot afford to pay for the program for more than two years. Immediate attention needs to be given to this potential financial crisis. Clearly, this is a critical issue.

Compounding the problem is that the federal Health Care Financing Administration (HCFA) is in the process of reducing Medicare ambulance transport reimbursement. It is predicted that these payments will decrease by 20 percent over the next four years. Medicare payments represent approximately 50 percent of all Medic One reimbursement submissions. This adds to the financial predicament.

These financial stressors coupled with the fact that citizens now expect a high level of service, including fast response times and the latest medical technology and equipment (i.e. defibrillators), and the increases in call demand and population makes it highly challenging to provide these services for the same or less money. It is inevitable that this cutting-edge, excellent system will cost more money.

***The Argument for an EMS Tax Levy*** – Several alternative funding approaches were briefly considered other than an EMS tax:

- Raising taxes in general;
- A 911 tax on phone bills;
- A restaurant tax so as to tap the visiting population; and,
- Approaching wilderness areas such as Mt. Baker for contributions.

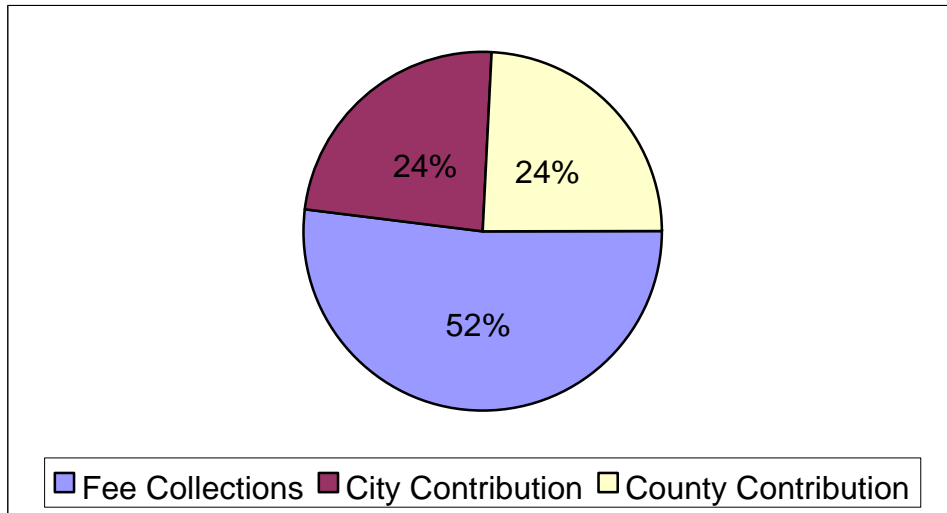
The committee reviewed these alternatives and found that none have the ability to raise sufficient funds or would otherwise be the most practical solution. The EMS Tax levy, however, if implemented, would effectively replace the County and City contributions. It would also free up monies for the general funds of the respective governments. (A fuller discussion of alternative funding sources is in the next section, Financial Plan/Forecast.)

At present (2002), ambulance and aid fees are anticipated to net approximately \$2.8 million, including other revenues and financing sources. Therefore, the minimum EMS tax levy amount required funding to pay for the rest of the current Medic One program is \$2.6 million.<sup>8</sup> Figure 4 shows the current revenues.

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<sup>8</sup> The total cost of the system in 2002 (\$5.4 million) *minus* the Billing/Collection fees anticipated for 2002 (\$2.8 million) *equals* the share to be paid for by the City of Bellingham and Whatcom County (\$2.6 million). These obligations are made in equal parts, approximately \$1.3 million by each entity.

**Figure 4: 2002 Medic One System Revenues**



**EMS Tax Levy Potential** – Three levels were considered for the EMS Tax Levy: a minimum amount required to sustain the EMS system and Medic One program for the next 6 years, a minimum amount with some extra money for improvements; and maximum improvement potential. Each penny added to the tax levy yields approximately \$120,000. The three levels and the estimated revenues were:

- 32 cents yields \$3,889,250 – the minimum levy amount including cost adjustments;
- 40 cents yield \$4,861,563 – breakeven plus some growth;
- 50 cents yields \$6,076,954 – breakeven plus major improvement.

A \$0.40 tax levy will yield a net gain of \$2.2 million over the present \$5.4 million: \$4.8 million from the Levy *plus* \$2.8 million from collections *equals* \$7.6 million *minus* \$5.4 million (present cost of the system) *equals* \$2.2 million.

The committee considered four options for use of funds above the current levels:

- Apply funds to operate future BFD/Medic One units
- Redistribute funds back to the districts from which they were collected, allowing each to apply the funds to their EMS first responder programs as they see fit;

- Utilize the excess funds in a combination that might include financial incentives for fire districts to sign interlocal cooperation agreements and create a “co-op”;
- Provide staff to solve administrative needs identified under key strategic areas.

*The Whatcom County EMS Strategic Planning Committee recommended the following tax strategy:*

- Pursue an EMS tax levy for Whatcom County and the City of Bellingham
- Work towards placement on the ballot by November 2003. A March 2003 vote is also acceptable.
- Proceed with the premise that no district will lose revenues as a result (assume those districts which already have an EMS tax levy will continue to collect and keep the difference)
- Consider using excess funds to fund programs and positions that benefit all participants in the system, should extra funds be identified.

The use of the tax funds would take the pressure off the county/cities general funds.

## **Critical Issue # 2 – System Coordination Mechanism**

***Problem statement*** – The committee identified “system coordination” as the second critical issue. A system coordination mechanism, e.g. a co-op, may create a way to administer and allocate the EMS tax levy funds and a method for implementing any future operational integrations (system design).

With the Bellingham Fire Department as the main proprietor of the financial, operational, training, and educational oversight of the Medic One program, the committee believes that this continued oversight mechanism is a concern because of the following:

- The perception of inequitable decision-making related to system issues because the County pays a share equal to that of the City of Bellingham, but has less direct control; and

- The unbalanced level of service across the County, especially long response times in some areas.

The principal responsibility for the BFD is the Medic One (ALS) component of the EMS system, as established through a Joint Powers Agreement between the City of Bellingham and Whatcom County.

BLS services provided by all county fire agencies are also of critical importance but lack a coordinated mechanism for effective delivery such as provided by Medic One through the Bellingham Fire Department. Given these concerns, the Committee believes that a new system coordination mechanism will be needed to support and improve the EMS system.

***The System Coordination Future*** – A new organizational design, created de facto by the implementation and passage of an EMS tax levy, would establish a coordinated relationship between County service agencies and the City of Bellingham. In order to realize economies of scale and for the system coordination to be effective, the 17 fire protection districts located throughout the County could create an EMS cooperative by signing interlocal cooperation agreements, similar to Districts 3, 5, and 13. To administer this program, a full time coordinator may be needed.

By law, the County has the responsibility to collect and distribute any funds raised by an EMS tax levy. The City, however, as the provider of the Medic One system, which the committee agrees should be the provider, will receive the majority of the funds. Because of past problems related to system coordination, the committee has designed a structure that would allow all county fire service agencies the opportunity to construct and ensure a fair and equitable way to distribute the EMS funds and better coordinate the operational, training, and educational components.

Under the proposed organizational design, Whatcom County would fulfill its legal obligation as collector of EMS levy funds, regardless of milage rate. The City of Bellingham and a newly formed entity, “the Whatcom County Fire Service Cooperative” would receive their fair shares of levy funds through a mutually agreed upon formula. This formula will be made simple, at least during the first few years of operations, by returning to each entity (the City of Bellingham and the Whatcom County “Cooperative”) its share based on the origin of levy fees collected. **In other words, all funds derived**

**from property located within the city limits of Bellingham would go to Bellingham, and the same for the county.** By contractual agreement, the two entities would fund the Medic One program for the duration of the levy period. Should there be levy funds over and above Medic Ones immediate needs, then each entity would identify other funding needs, e.g. BLS First response. Figure 5 illustrates the Bellingham/Whatcom County EMS System Partnership.

This design has the following advantages:

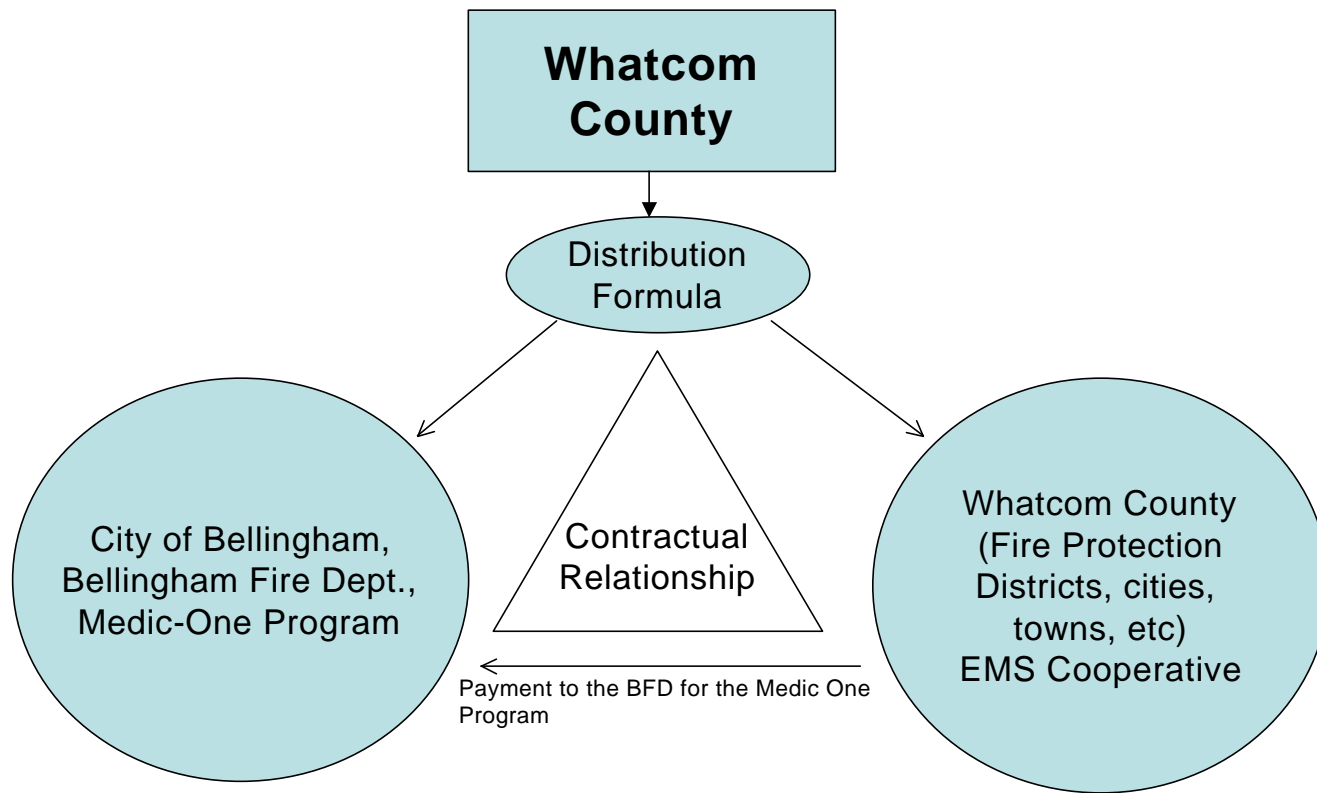
- It allows the citizens of the city and county the guarantee that their taxes are not funding programs they do not have access to;
- It gives the County fire service agencies opportunity to have direct input in all issues pertaining to the future delivery of EMS services in the County;
- It organizes the County providers and fire districts into one forum to begin the processes of functional consolidation of services, the EMS cooperative;
- It provides Whatcom County elected officials with a new entity to partner with to ensure that all operational needs of the County are adequately addressed.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- Build the Bellingham/Whatcom County EMS system partnership. This city/county contractual relationship should be formula driven. It should be up and running prior to any levy funds being realized.

The formula, which should be predetermined, would divide the monies from the EMS tax levy based on assessed valuation. Also, payment to the BFD for Medic One services should be set prior to passage of the EMS levy. This amount should be binding for at least 2-3 years, if not the entire six years of the levy period while the “co-op” is formed and establishes itself. The primary concern of the committee is to maintain excellent care and EMS to the citizens throughout Whatcom County.

**Figure 5: The Bellingham/Whatcom County EMS System Partnership**



- 2002 Cost of Medic-One Program = \$5.4 Million
- 32 cents yields \$3,889,250 - the minimum levy amount including cost adjustments
- 40 cents yields \$4,861,563 - breakeven plus some growth
- 50 cents yields \$6,076,954 - breakeven plus extreme improvement

### **Critical Issue # 3 – Future System Integrations**

The Medic One program shares the challenges of maintaining excellent services while handling the pressures and changes that will occur in the public safety sector as a result of new homeland security initiatives. These changes may trigger a comprehensive system review and recommendations to change some levels of service. Additionally, Medic One shares the challenges of maintaining excellent service while providing EMS to a dispersed population, diverse topography, and, sometimes, many political climates.

These political climates are more a function of 17 fire protection districts having 17 different agendas. In fact, it is more a result of having different characteristics and therefore differing priorities that may result in conflicting opinions of need. Also, different departments have varying level of services or sophistication, which exacerbates this problem. This is more a function of call volume and demand than anything else. Departments such as North Whatcom, District 7, and District 4 are poised to take on a greater EMS role, should one be identified. All Whatcom County fire districts currently provide BLS first responder services. The committee has identified “cooperation” as a means to provide more efficient and effective BLS services throughout the County, not to just one district or community. Furthermore, each fire service agency should work toward maintaining the local identity and characteristics of the fire districts while working together toward a common goal.

The Medic One program operated by the BFD had previously taken the approach of medic unit placement based on a sufficient quantity of calls by origin. This practice has worked well as long as the vast majority of calls have been in and around the city of Bellingham. All units are placed in an integrated fashion to compliment each primary response area, allowing for balanced call volumes and the best possible response times for the entire fleet.

However, as Medic One works with the other providers, it bumps into four different breeds of service. There are 1) some highly developed EMS/fire departments, 2) some EMS/fire departments that do not have the call volume to warrant paid capabilities, 3) some fire districts adjacent to Bellingham that may be annexed into the city and therefore into the BFD in the near future, and 4) a vast wilderness territory where little to no EMS capability resides.

**Problem Statement** – Given the current operational parameters of the system, coupled with the certainty that call volume and citizen expectations will continue to rise, the uneven system development across the county poses challenges to the Medic One program. Needs must be addressed in the near future and beyond, and better balance obtained in the resources. For example, there are 35 BLS ambulances dispersed throughout the county that currently perform little to no patient transport, while other areas have or expect higher demand than they can handle well.

System integration issues that will require further analysis are the following:

- The outer reaches of the county along the Canadian border and eastern portions of the County do not receive prompt ALS response due to the low call volume. Are there practical ways to rectify this?
- At what point does the Medic One program, whose entire workforce are BFD employees, stop expanding outside the city limits and other providers become ALS providers, if at all?
- Should the more developed fire districts be encouraged to commence BLS transport?
- Should levy funds be utilized in part to support paid staffing in these outlying areas and or additional training needs?
- Does the “Cooperative” require a full time or part time coordinator to guide the implementation of programs decided upon by the cooperative?

These are the future system integration issues the EMS System will have to address over the next few years. The complexity of the issues underscores the necessity to put in place:

- A more secure and equitable funding mechanism, (Issue # 1);
- A fair established forum to air these issues, (Issue # 2); and perhaps,
- Economic incentives to the fire districts to create a cooperative.<sup>9</sup>

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<sup>9</sup> That is, BLS first responder monetary support could be made contingent upon progress towards creating a cooperative.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- Construct a coordination entity that allows all county stakeholders to be represented.

A truly representative body has the potential to solve most present coordination problems as well as making future operational decisions. All 17 fire districts should be represented. As discussed in conjunction with the funding critical issue, some fund dispersal capability, over and above the funding of the Medic One program, may provide incentives and tools to make the “cooperative” more effective, a carrot and stick approach.

**Critical Issue # 4 – Volunteer Recruitment and Retention**

During the past 20 years, volunteer fire departments across North America have experienced a sharp decline in the number of active members. Recruitment and retention of volunteers has become a formidable problem in most volunteer fire departments. Across the United States the number of volunteers has declined 10 percent since 1983, while call volumes have increased 50 to 100 percent in most communities.<sup>10</sup>

The range of emergency services provided by fire departments today is much broader than 25 to 30 years ago. At that time, fire departments responded mostly to fires, vehicle accidents, and occasional medical emergencies. Very few fire department personnel had any medical training beyond basic first aid and CPR. Today, the public expects fire departments to provide assistance for a much broader scope of emergencies; including hazardous material incidents, carbon monoxide alarms, broken water pipes, mysterious odors, structural collapse, extrications, water rescue, even bomb and terrorist threats. When the public calls for assistance in any of these situations, the fire department personnel must be ready to respond. In order to meet the public’s expectations, firefighters must attend a wider variety of training courses. Additionally, the public often expects the fire department will provide advanced life support services for critical medical emergencies.

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<sup>10</sup> Information on to how to recruit and retain volunteers may be found in the U.S. Fire Administration’s report *Recruitment and Retention in the Volunteer Fire Service: Problems and Solutions*, written by TriData. A Northwest regional meeting of volunteer leadership to discuss this topic contributed to that report.

A significant question facing the County for the future is whether volunteer membership will be large and strong enough to handle the increasing call volume throughout the County, and demand for a broader set of services, and the concomitant training requirements.

The training demands for fire service volunteers are already high, unlikely to decline, and may increase in the future, especially if higher levels of EMS are to be delivered.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- **Each station using volunteer personnel should implement a duty schedule to ensure that it is able to staff the major piece of equipment assigned to that station at all times.** It is preferable that the station have the volunteer crew on stand-by, but at the minimum, the duty crew must be in the general vicinity of the station ready to respond. Ultimately, staffing decisions need to consider demand and workload. A duty schedules gives each volunteer a specific, limited time period each month during which he or she is expected to be on stand-by at the station or at least nearby. This allows volunteers to plan their lives better, versus the old method of alerting all volunteers for all incidents, which is not tolerable above some level of call volume.
- **Consider the use of daytime career staffing in departments with higher daytime demands, like what District 7 is doing, as one example.** The stations can be staffed with volunteers at night and on weekends, and volunteers might supplement the day shift if available. The use of this format, sometimes called power shifts, requires fifty hours per week (10 hours per day for 5 days) times the number of positions for career staff for the daytime weekdays. It requires 118 hours per week times the number of positions for volunteer staff. If the number of volunteers is not sufficient to staff all of the nights and weekends, a skeleton crew of career personnel might be used to supplement the difference.
- A duty of the “cooperative” should be to devise a countywide volunteer recruitment and retention program to keep the volunteer program healthy and hold down costs of using career personnel.

## V. KEY STRATEGIC AREAS

This section discusses the EMS system components. Some elements such as Administration and Coordination and Human Resources will be more crucial to the organization's success than others.

### Administration and System Coordination

Although the Medic One program is expertly administered, the strategic planning committee identified other areas that could benefit from improvement. Specifically, as call volume continues to grow and County-based providers continue to develop, a need to add administrative personnel was discussed. There is a need for more coordinated BLS administration. These BLS administrative personnel would have duties above and beyond simply administration and system coordination, to include some training, quality assurance, and evaluation functions.

*The Whatcom County EMS Strategic Planning Committee recommends a County fire service co-op consider adding:*

- An assistant BLS quality assurance expert for BLS Services;
- One full-time position to administer and coordinate system development;

Each of these added positions could partially be funded through the EMS levy, as part of the distribution formula.

The BLS quality assurance expert would be responsible for:

- 1) Providing BLS quality assurance provision for the system. This includes conducting on a periodic basis intensive reviews of the BLS EMS system;
- 2) Developing, revising, and administering educational material to the BLS providers;
- 3) Developing and revising BLS medical protocols, with the approved County Medical Priority Director, for BLS services;
- 4) Monitoring response time performance of the BLS first responders; and

- 5) Maintaining a records management system of data on the certified BLS personnel in the County, their recertification process, and documented continuing medical education.

The full-time administrative officer would be responsible for:

- 1) System coordination including the fostering of a “one-system” concept and minimizing system redundancies through functional consolidation of fire districts. A longer-term goal would be to reduce substantially the number of independent fire districts in Whatcom County;
- 2) Training, education and operations coordination;
- 3) Acting as a central repository for system information and statistics;
- 4) Quality assurance functions under the authority of the medical program director and BLS quality assurance expert;
- 5) Acting as the liaison to countywide advisory councils and committees; and,
- 6) Developing countywide volunteer recruitment and retention programs.

## **Role of Whatcom County Emergency Medical Services and Trauma Care Council**

The Whatcom County EMS and Trauma Care Council provides a framework to improve communication and consensus between ALS and BLS providers. However, the Council has concerned itself primarily with educational issues. System coordination and operational issues have not been the focus of the Council. The Committee had limited discussion on the possible future role of the EMS Council and recognized the potential for the Council to play a significant role in the coordination and the delivery of future programs.

## **Medical Control and Quality Assurance**

The Medical Program Director (MPD) is responsible for setting training standards, medical control supervision, and quality review of the County’s paramedics and emergency medical technicians. Other major functions performed by the MPD include establishing patient care guidelines for treatment, triage, and transportation; supervising paramedic training and continuing education programs; and making

recommendations for equipment and EMS technology. The MPD in Whatcom County/Bellingham also provides medical control to the Medic One program.

Medical control provided by the Medic One program and the County, as recognized by EMS experts nationally, is cutting edge. On-line and off-line medical control is effectively applied. The quality assurance program is in place, and is effective and efficient as evidenced by the medical save rate program being among the highest in the country.

What may be the most remarkable achievement is the integration of the two separate cultures: medical and fire operations. In many parts of the country, fire-based EMS models can be problematic. Although the MPD is not solely responsible for the successful integration of missions and services in the BFD, he has played a leading role and should be recognized for such.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- As part of a fire service cooperative, consideration should be given to fund, from tax levy revenues, a new position: Basic Life Support (BLS) quality assurance expert.

The committee anticipates the future medical model of the Medic One program will be a tiered response system. With the increasing EMS workload and new system, there may be a need to add a BLS quality assurance expert. A first responder, EMT, or paramedic usually provides BLS, or care provided by persons trained in first aid, CPR, and other non-invasive care. BLS is provided throughout the County. It contributes extensively to the success of the EMS system. Further, many BLS providers throughout the County provide advanced airway management and cardiac defibrillation, which is an excellent practice. Additionally, there are over 600 personnel trained at the BLS level, either as EMTs or first-responders. As BLS providers use higher-level medical skills, the system needs BLS quality assurance.

ALS quality assurance is the responsibility of the Medic One physician director. Other staff, who can bring the more complex issues to the County Medical Program Director for resolution, however, can provide BLS quality assurance. BLS quality assurance is being used in some parts of the county, but not all. The law does not require

BLS quality assurance programs, but it is a hallmark of the more successful systems nationwide.

## **Human Resources (Volunteers)**

All 17 fire protection districts, including the BFD, provide BLS first responder services for the Medic One program. BLS first responder services are better developed in some parts of the County than in others, especially where call volume, population density, and volunteer availability are higher. Fire Districts 3, 5, and 13, also known as North Whatcom Fire and Rescue, is one example of a recently well-developed co-op that was created to share resources, realize economies of scale, and improve overall levels of service. Although this cooperation is experimental, more departments should follow this example.

Because first responder programs are suffering from a shortage of personnel, especially volunteer providers, the planning committee addressed the need to improve recruitment and retention. The following are observations made by the committee:

- 1) Volunteer fire service/EMS first responders are a critical component of the system;
- 2) Weekday/daytime availability is becoming increasingly difficult to maintain, mostly because of increased training requirements, two income families and not enough time to dedicate to community service.
- 3) Departments with relatively high call volume are seeing the necessity for daytime “paid” personnel.

As noted earlier, volunteer fire departments across North America have experienced a sharp decline in the number of active members. A significant question facing Whatcom County for the future is whether the volunteer membership will be large and strong enough to handle the increasing call volume and anticipated growth. Volunteerism is a great cost-saving opportunity.

### ***The Whatcom County EMS Strategic Planning Committee recommends:***

- Review system capabilities and consider an innovative approach to provide rural EMS. Further skill enhancements, at the BLS or ALS levels,

and paid, daytime employees while staffing with volunteers at other times may be future options.

- Consider using EMS Tax Levy funds for strategically placed staff in the areas with increasing demand and longer response time, with the co-ops approval.
- Rejuvenate and sustain countywide volunteer recruitment programs. Additional monies from the EMS tax levy should be used to fund these programs, with the co-ops approval.

## Ambulance Services

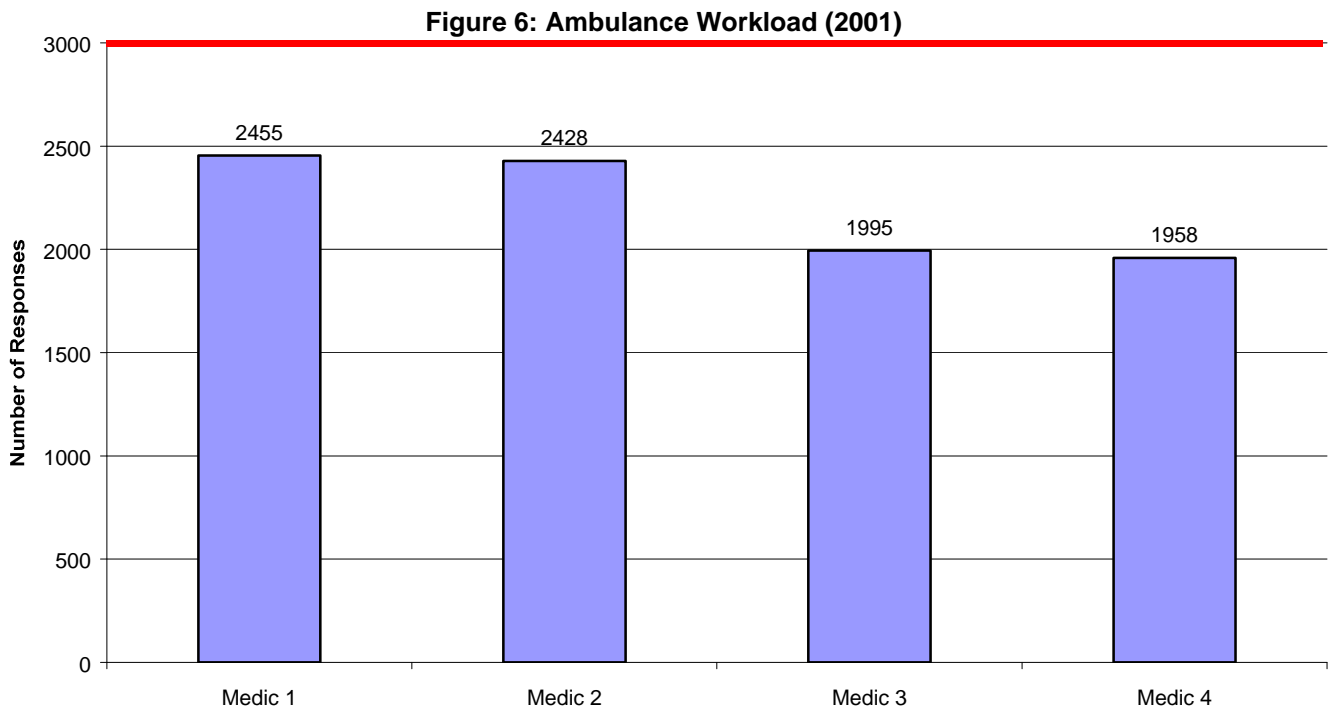
**Primary Services** – Bellingham ambulances are all staffed with one or two paramedics to meet EMS transport needs for the County. Whatcom Medic One ambulances are staffed with a minimum of 1 firefighter/paramedic and 1 firefighter/EMT, with the exception of Medic 3, which is staffed with 2 full-time paramedics. It is a Medic One program goal to achieve a two paramedic-staffing configuration on each ambulance. There are recognized benefits of two-paramedic staffing. This is the medical director's favored staffing plan and the preference among the paramedics themselves. Labor representatives also support it favorably. The majority of the time each ambulance does have two paramedics except when there are a limited number of paramedics on a given shift. The Medic One program should try to staff, as they are currently doing, with 2 paramedics when possible. It could be budgeted for the duration of the six-year levy period (if passed) and the goal will be met in spirit. Implementation, however, is contingent upon agreement by all the Medic One stakeholders.

Currently, Medic 1 and Medic 2 operate out of the Bellingham Fire Department Headquarters Station. Medic 3 operates out of Whatcom County Fire District 7 Grandview Station near the I-5 corridor. Medic Four is currently operating out of Bellingham Fire Station 4, but is slated to move to the east/central county area in late fall 2002. Last year, the Medic One program transported over 6,000 patients.

As a general rule of thumb, any unit responding to over 3,000 calls per year is considered very busy, and should be considered for relief. The ambulance workload for 2001 is shown in Figure 6. Two of the Medic One ambulances are at 2,500 calls, and are approaching that threshold, while two are at 2,000 calls and have some considerable capacity left. A very busy unit, staffed by the same two personnel for an entire 24-hour

shift, is a concern. There is a considerable risk for “burn-out” and field fatigue. Current projections estimate that a fifth medic unit will be needed by 2005.

This projection is based on future medic unit workloads, and need to maintain response times in light of the forecast population growth. Because of the projected increased EMS workload, added field supervision should be considered. This is a system-wide decision that should be made by all the Medic-One stakeholders.



**Second Tier Ambulance Services** – Cascade Ambulance, a private provider, furnishes a second tier of transport services. It provides non-emergency and interfacility transport, and performed 2,298 transports last year. They are interested in expanding their business to include 911 scene responses. The consensus opinion of the committee was to leave their role in the EMS system as is. This situation is the norm or prevailing model employed across the United States, with public sector providing emergency service and private sector providing non-emergency transport, though there are many examples of other arrangements.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- The current model for delivering fire-based EMS should remain unchanged, i.e. public sector provision of all emergency EMS services.

This division of labor, with the private provider handling interfacility transports while the public sector handles the 911 traffic, does not raise valid anti-trust issues. Members of the committee have encouraged Cascade Ambulance to seek other business opportunities (e.g. a contract with the Mt. Baker recreational area for ambulance coverage).

***Aeromedical Ambulance Services*** – Airlift Northwest, a not-for-profit ALS air transport service, provides aeromedical transport services. They are based at St. Joseph’s Hospital and performed 18 interfacility and emergency transports last year (1 in Lummi Island, 5 at Mt. Baker, and 12 in Whatcom County). An issue the Airlift Northwest representatives raised was the relatively small number of scene responses. Given the long response times imposed by a rural and wilderness environment, air ambulance services can be instrumental in bringing patients to definitive care within the “Golden Hour.” The committee discussed aeromedical scene response, and its advantages and limitations, but reached no consensus on how to amend current practices concerning scene response. Representatives on the committee from the air ambulance service expressed concern that if the number of uses of their service does not increase, the service may become an unsustainable economic liability. The committee needs to re-address this situation before too long.

***BLS Ambulance Services*** – Another issue identified, related to patient transport, was that 35 ambulances are dispersed throughout the county outside Bellingham. They are housed at the 17 fire districts departments, and are infrequently being used for EMS patient transport. This is because many of the departments lack the resources necessary to provide transport or are simply not interested in providing the service. The success of the Medic One program and the relatively low call volume in the outlying areas has made BLS transport by a county-based provider impractical.

The Prospect Dispatch Center has the capability of differentiating between ALS and BLS calls in most cases (no system is perfect). Therefore, it is usually possible to send a closer BLS unit than a further away posted Medic One unit to BLS calls. Staffing shortages in the County during daytime, weekday hours further complicates this situation.

Although there was no consensus reached on this issue, the following recommendations were considered:

- As certain departments continue to develop (District 7, District 4, North Whatcom, etc.) and their call volume continues to increase (5-10 years), BLS transport or another innovative approach to provide transport should be considered. This is a system-wide decision that should be made by the Medic One and EMS stakeholders.
- The EMS Trauma Care Council should develop a framework to discuss BLS transportation implementation.

The committee agreed that a critical decision juncture on this subject is still a year or two away and that it would be assigned to the appropriate decision making body – upon its creation.

***The Whatcom County EMS Strategic Planning Committee recommends:***

- Billing and collections remain a function of the BFD if some departments begin BLS transport in the near future, in order to realize economies of scale. Transport fees for non-Medic One BLS units could be re-directed to the host provider.

The committee will closely monitor the “cooperation” experiment among districts 3, 5, and 13. Success there may provide an overall indicator on how successful fire district “cooperation” may be throughout Whatcom County. Furthermore, cooperation will impact the BLS transport issue as well because most departments do not have the resources or manpower to provide these services.

## **Dispatch Services and Communications**

A key component of the Medic One system is dispatch services. The BFD operates the dispatch center which dispatches all EMS and fire call City and Countywide. The Medic One program employs medical priority dispatch and its dispatchers are certified emergency medical dispatchers. The system also utilizes enhanced 911 technologies.

Related issues discussed during the strategic planning process were: 1) the necessity to update the computer-aided dispatch system and 2) the need to add staff (a dispatcher) as demand grows.

Communications are adequate for the present. The dispatch equipment, however, is antiquated and functions imperfectly. Inadequacies identified were:

- 1) Dead zones (areas where signals are low, including the Emergency Department);
- 2) Background noise (interference with transmissions);
- 3) Insufficient number of frequencies.

## **Training and Equipment**

Paramedic training is excellent and requires no change. BLS training and equipment standardization were identified as requiring modification.

BLS training is taking place across the county. There does not exist a central repository of data on the certified personnel in the county, their recertification status, and their documented continuing medical education. The county administrator/coordinators position was identified as the solution to this records problems.

Some volunteer providers maintain that they do not have adequate input into the decisions Medic One makes regarding EMS equipment. Rejuvenating an equipment committee as a subcommittee of the EMS Trauma Council was recommended. The tax levy funds may provide an avenue for some funding relief for BLS first response equipment needs. This could be accomplished in one of several ways:

- 1) Return each fire district's levy contribution;
- 2) Pool some levy funds (\$100-200,000) to target larger needs in the fire districts; use the funds as leverage to induce mergers or cooperatives.

## Facilities

Each of the 17 fire protection districts and the City of Bellingham independently makes station location, relocations, and construction decisions. These critical decisions are not coordinated. The committee discussed the need for a more coordinated or system wide effort in making these decisions.

As an example of why this is needed. St. Joseph's Hospital, the primary medical center in the region, recently upgraded and renovated its facility. These changes were made without considering or addressing some ambulance accessibility concerns. The hospital realized after the fact that the ambulances could not fit in the new ambulance bays and had to park several feet away. The committee recommends that the hospital include the ambulance providers in future planning.

*The Whatcom County EMS Strategic Planning Committee recommends:*

- Coordinate station location analyses, relocations, or construction to alleviate redundancies and to ease the burden on taxpayers.
- St Joseph's Hospital should consult more with the EMS providers in order to assure that physical plant changes and renovations commence in the future should be consistent with ambulance accessibility issues.

## Finance

Finance issues, another important EMS system component and strategic area, are discussed in the next chapter, Financial Plan/Forecast.

## VI. FINANCIAL PLAN/FORECAST

Through a joint powers agreement between the two jurisdictions, Bellingham and the County split the costs of the Medic One program after accounting for the projected revenue from the fees for services. During the past five years, the revenue from fees has represented slightly more than 50 percent of the total revenues, while Bellingham and the County have each contributed about 22 percent. The remaining 6 percent of revenue come from other sources such as investment income on the program's fund balance.

In 2000, the fees were raised to increase their contribution to the revenues from 50 percent to a projected 55 percent of the total. The actual fee revenue in 2000 turned out to be 60 percent of the revenues, then declined back to 51 percent of total revenues in 2001. Table 25 shows the revenues and expenditures for the past five years. Table 26 shows the percentage of revenues contributed by each revenue category.

**Table 25: Medic One Program Revenues and Expenditures 1997-2001**

Revenues	1997	1998	1999	2000	2001
Ambulance and Emergency Aid Fees (net)	\$1,835,043	\$1,972,240	\$2,079,502	\$2,582,345	\$2,813,055
Contribution - City of Bellingham	744,607	796,348	974,404	823,366	1,277,036
Contribution - Whatcom County	744,607	796,348	974,404	823,366	1,251,345
Other Revenues and Financing Sources	27,853	39,536	49,812	30,416	115,198
<b>Total Revenues</b>	<b>\$3,352,110</b>	<b>\$3,604,472</b>	<b>\$4,078,122</b>	<b>\$4,259,493</b>	<b>\$5,456,634</b>
Expenses					
Salaries, Wages, and Benefits	\$2,141,844	\$2,378,666	\$2,672,510	\$2,956,208	\$3,490,088
Supplies	179,585	226,917	209,503	303,500	265,372
Services – Professional, Repairs, Utilities	81,908	106,302	192,690	156,250	176,490
Interfund – Loans, Taxes, Fees	29,829	30,730	28,020	36,674	32,624
Capital Outlay	132,165	95,710	278,371	127,019	4,237
Debt-Principal and Interest					
Interfund – Warehouse and Services	595,549	583,010	611,172	682,494	822,944
<b>Total Expenditures</b>	<b>\$3,160,880</b>	<b>\$3,421,335</b>	<b>\$3,992,266</b>	<b>\$4,262,145</b>	<b>\$4,791,755</b>

**Table 26: Percentage Distribution of Total Revenues by Source**

Revenue Category	1997	1998	1999	2000	2001
Ambulance and Emergency Aid Fees	54.7	54.7	51.0	60.6	51.6
Contribution – City of Bellingham	22.2	22.1	23.9	19.3	23.4
Contribution – Whatcom County	22.2	22.1	23.9	19.3	22.9
Other Revenues and Financing Sources	0.8	1.1	1.2	0.7	2.1
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## Financing Issues

During the Committee's strategic planning sessions, the Committee members identified future funding for the Medic One program as a significant issue. Since 1997 the Medic One program expenditures have increased at an average of 11 percent per year, while overall revenues have increased at about 13 percent per year. The Bellingham and County contributions, however, have increased at about 17 percent per year higher than the average annual rate, primarily due to a 53 percent increase in their contributions for 2001. Their contributions increased from a total of \$1,646,732 in 2000 to \$2,528,381 in 2001. In 2002, the budgeted contributions total \$2,658,014, which is about a 5 percent increase over 2001.

With the increase in the Bellingham and the County contributions, the Committee believes that continued funding for Medic One is a concern because of the following:

- The passage of Initiative 747, which limits increases in property tax levies to 1 percent without a public vote;
- The County's increasing costs and proportion of the budget for mandated services supported by the County's General Fund; and,
- An uncertainty about the long-term ability of both Bellingham and the County to continue funding Medic One in light of the revenue limitations and increasing costs for other services.

Given these future constraints on the ability of Bellingham and Whatcom County to continue funding the Medic One program, the Committee believes that alternative funding sources will be needed to support the continuation and improvement of Whatcom County's Medic One system.

## Financing Alternatives

Because several fire districts have already used an EMS levy approach to obtain additional funding for their EMS services, the Committee focused its attention on an EMS levy to replace Bellingham's and Whatcom County's current general fund contributions for the Medic One program. Other than the EMS levy approach, alternative funding sources for the Medic One program are very limited, because of state law. For example, in 1998 King County created an Emergency Medical Services Financial

Planning Task Force to analyze long term funding alternatives that would allow King County to reduce its reliance on EMS property tax levies. All the alternatives identified by the King County Task Force, except for subscription and transport fees, required new state legislation to be implemented.

Without new state legislation, the financing alternatives for Whatcom County's Medic One program are to continue the current Bellingham and Whatcom County general fund contributions, to use the EMS levy approach, or to use a Countywide excess levy. Any combination of these funding sources could also be used.

Regardless of the alternative funding sources put in place, the need to continue charging fees for services will continue as a primary means to support the Medic One program. A tax levy may allow for the collection of fees from insurance companies to be accepted as payment in full. In other words, citizens who have no insurance or whose insurance does not cover the charges in full would have their out-of-pocket charges covered by the levy. The decision to include the levy funds for this purpose will rest with the County and City of Bellingham elected officials.

***Bellingham and Whatcom County General Fund Contributions*** – As mentioned previously, there are a number of constraints on the capability of the two jurisdictions to provide funding to maintain and improve the Medic One program. As illustrated by the financial and cost forecasts discussed later in this section, Bellingham and Whatcom County would have to increase their 2002 contributions from \$2.6 million to slightly over \$3 million just to maintain service in 2004 without adding any other Medic One units. Although Bellingham and the County are currently able to support Medic One, budget forecasts indicate that their revenue growth will be limited compared to the increased growth in expenditures.

Based on the Committee's discussion, the following are some of the advantages and disadvantages of continuing with the current funding approach.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>◆ May not increase taxes</li> </ul>	<ul style="list-style-type: none"> <li>◆ Must compete with other City and County priorities supported by the general fund</li> <li>◆ May still require a vote if the jurisdictions need to ask voters for an increase in property taxes above the allowed one percent limit</li> <li>◆ Has no assurance that full funding will be available in the future</li> <li>◆ Requires close budget coordination between Bellingham and the County and must be approved by both jurisdictions</li> </ul>

**Emergency Medical Services Levy** – The Committee’s preferred approach is an EMS levy. RCW 84.52.069 allows taxing districts such as cities, counties, and fire protection districts to impose an additional regular property tax levy of up to fifty cents per thousand dollars of assessed valuation. The funds from an EMS levy can only be used for providing emergency medical care or emergency medical services. Related personnel costs, training for EMS personnel, and related equipment, supplies, vehicles, and structures needed for the provision of care or services can also be included in the levy. The law provides for the following:

- The levy may be imposed each year for either six consecutive years, ten consecutive years, or permanently.
- The levy must be authorized by at least 60 percent of the registered voters when there is a voter turnout greater than 40 percent of the number of voters in the last general election. If voter turnout is less than the 40 percent, a levy will be authorized if the number of yes votes is equal to at least 60 percent times 40 percent of those who voted in the last general election.
- If a permanent levy is imposed, a taxing district must provide for separate accounting of expenditures of the revenues generated by the levy. The taxing district must maintain a statement of accounting that must be updated every two years and be available to the public at no charge.
- If a permanent levy is imposed, it is subject to a referendum at any time.
- The levy is not subject to the levy rate limit of \$5.90 for junior and senior taxing districts.
- Each city over 50,000 population must approve the levy.

If Whatcom County imposed an EMS levy, the funding for the Medic One program could range from \$3.9 million at 32 cents per \$1,000 of assessed value to \$6 million at the full fifty cents. For 2002 taxes, Whatcom County has an assessed value of \$12,153,907,948. Table 27 shows the amount of revenue that could be generated with levy rates at 50, 40, and 32 cents.

**Table 27: Revenue From Different EMS Levy Rates**

Levy Rate	EMS Levy Amount
0.50 per \$1,000 AV	\$6,076,954
0.40 per \$1,000 AV	\$4,861,563
0.32per \$1,000 AV	\$3,889,250

To support their emergency medical services provided as a first responder, six of the seventeen fire districts have already approved an emergency medical services levy for their district. Table 28 shows the fire district, the levy rate, and the amount of revenue for 2002, for the six.

**Table 28: Fire District 2002 EMS Levies**

Fire District	Tax Rate/\$1,000 AV	2002 EMS Levy
District #6	0.24766	\$28,769
District #9	0.28156	35,185
District #11	0.18851	25,497
District #14	0.25000	63,696
District #16	0.25000	19,509
District #18	0.48554	56,856
<b>Total</b>		<b>\$229,512</b>

If a Countywide EMS levy were imposed, there could be financial impacts on these fire districts that will affect their ability to fund the services currently provided through their own EMS levies. RCW 84.52.069 also provides for determining what happens to existing EMS levies when a county imposes an EMS levy. If Whatcom County has an EMS levy, no other taxing district within the County can have an EMS levy. However, if the County’s levy is less than fifty cents per thousand dollars of assessed value, other taxing districts may levy a tax that is equal to the difference between the County’s tax and fifty cents. Thus, for the six fire districts that have approved levies, their tax rate would be reduced to the difference between the County’s tax and fifty cents. A County levy that is slightly more than 31 cents would affect all six districts that have an EMS levy. If an EMS levy approach is used, the Committee needs

to decide whether the levy should generate enough revenue to reimburse the six districts for any EMS revenues that would be lost as a result of the County levy.

Compared to the current funding approach (using general fund contributions from Bellingham and the County), a countywide EMS levy has some of the following advantages and disadvantages.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>◆ Offers a dedicated funding source for EMS and eliminates competition for funding from other City and County services</li> <li>◆ Is a reliable and stable source of funding for the approved period</li> <li>◆ Provides for one jurisdiction with centralized oversight and responsibility for funding the program</li> <li>◆ Does not affect other general property tax levies and levy capacity</li> <li>◆ May allow the elimination of out-of-pocket expenses for County residents who utilize Medic One services.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Must be approved by 60 percent of the voters</li> <li>◆ Will increase property taxes</li> <li>◆ Could override existing fire district EMS levies and reduce funding for the fire districts</li> </ul>

If the EMS levy approach is used, a critical decision is whether the levy should be for six years, ten years, or permanent. With the limitations established by Initiative 747, the annual levy amount can only increase at a maximum rate of one percent per year. The forecast implicit price deflator for the next decade is estimated at slightly more than two percent per year. As noted previously, Medic One program expenditures have increased an average of 11 percent per year. Even with added tax revenues from new construction, which are not subject to the tax limitation, the annual increase in revenues may not be sufficient to fund additional units and staff after the levy has been in place for several years. Because the annual increase in expenditures has been greater than the allowed revenue increase, a shorter-term levy provides the Medic One program with the opportunity to seek an increase in the levy rate sooner if its expenditures continue to increase faster than its revenue. Thus, a six-year levy seems more appropriate than either a ten-year or permanent levy.

**Whatcom County Levy Lid Lift** – Another alternative for funding Medic One is to use the County’s authority to impose an excess property tax levy or “levy lid lift”. Counties are allowed to ask voters for an increase in the property tax rate greater than the

allowed maximum if their levy rate is below the statutory maximum of \$1.80. A proposed lid lift can limit the time period for the levy as well as the purpose for which the funds will be spent. If the County has enough capacity within its current property tax levy, it could use some of its capacity to support Medic One. Although such a tax provides some of the same advantages as an EMS levy as well as only requiring approval from a simple majority of the voters, it does limit the County’s ability to use levy lid lifts to support other County needs and priorities. In addition, the tax rate capacity may not be the same as an EMS levy. The following are some of the advantages and disadvantages of this approach relative to the current general fund approach.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>◆ Offers a dedicated funding source for EMS and eliminates competition for funding from other City and County services</li> <li>◆ Is a reliable and stable source of funding for the approved period</li> <li>◆ Provides for one jurisdiction with centralized oversight and responsibility for funding the program</li> <li>◆ Will not affect the existing fire district EMS levies</li> </ul>	<ul style="list-style-type: none"> <li>◆ Must be approved by a simple majority of the voters</li> <li>◆ Is limited by the general property tax limitations and decreases the County’s general property tax capacity for other needs</li> <li>◆ May not have the same level of taxing capacity as an EMS levy (e.g. 50 cents)</li> <li>◆ Will increase property taxes</li> </ul>

## Conclusion

During the Committee’s strategic planning sessions, the Committee members identified future funding for the Medic One program as a significant issue. While there are many challenges and initiatives this strategic plan calls for, funding is the most critical. The committee also identified several other critical areas including system coordination, future system integrations, and volunteer recruitment and retention that require high priority attention. The committee feels, by the passage of an EMS tax levy, that finding ways to use existing resources more efficiently, creating a cooperative, and continuing the current operating structure of the Medic One program will help solve these critical issues.

***The Whatcom County EMS Strategic Planning Committee recommends***

- Passage of an EMS tax levy for a six-year period.