CONTRA COSTA COUNTY EMS SYSTEM

Prepared for:
Contra Costa County EMS Agency

Prepared By:
Fitch & Associates, LLC

September, 2003
# Consultant Report
## The Contra Costa County EMS System

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INTRODUCTION

Fitch & Associates was engaged by the Contra County EMS Agency to complete a three-phase project. The phases include:

1. Conduct an analysis of the costs of implementing a countywide ALS first responder program coupled with potential savings to the ambulance contractor with modification of performance requirements.
2. Draft the Emergency Ambulance Service Request for Proposals (RFP) and assist the County with the procurement process.
3. Assist the County with negotiations with the selected ambulance service.

A public comment draft of this report was delivered in early September, 2003. Organizations and individuals were encouraged to provide feedback and response to the recommendations and findings of the Consultant. The comments received from the public and organizations are included in Appendix E. Our response to the comments and additional clarification is provided in Appendix F.

Phase One has been completed and this report documents some of the key findings and recommendations for the Contra County EMS System. Many of the recommendations will be included in the Ambulance Service RFP. Drafting of the RFP has been initiated with provisions for the transition of ALS primary first response to the Fire Agencies during the term of the contract.

EMS system design components have been developed to allow fire agencies to increase their role in EMS primary ALS first response with flexibility to gradually implement a countywide system. The transition to ALS first response will not impact the service and care levels currently being delivered and in fact, will improve clinical care responsiveness in many situations.

As fire agencies implement ALS first response within the five designated zones and demonstrate their ability to improve ALS response times, the ambulance contractor will
be allowed to extend response times. The savings gained from the extended response times and changing the ambulance crew requirements from two paramedics to one paramedic and one EMT will allow for a partial allocation of funds to the fire agencies to support the engine-based paramedic program.

The following sections of this report summarize:

- EMS Funding and Expenditures
- Consultant Findings and Recommendations for the EMS System
- Analysis of Countywide Engine-based ALS First Response
- Transition to a Countywide Engine-based ALS First Response Program
- Provisions to be Included in the Ambulance Service RFP
- Procurement Activities

The goal of this report is to identify areas of the EMS System Design, performance requirements, and options for system improvement that will enhance the system and deliver high levels of emergency medical services in an efficient and economical manner. In essence, the goal is to ensure that the EMS System delivers the highest quality of services for the resources that are available.
EMS FUNDING AND EXPENDITURES

OVERVIEW
The EMS System Design in Contra Costa County incorporates a number of system participants including fire agencies, law enforcement, ambulance services, dispatch centers, hospital emergency departments, trauma centers, and others. Many of these entities are funded independently of the EMS System. For example, hospital emergency departments are funded primarily by all patients, not solely the EMS patients delivered by ambulance. The EMS System provides minimal funding to the hospitals for their EMS activities. Ambulance services are funded primarily by fees-for-service and fire agencies by their respective taxing authorities. Even so, the EMS Agency and the system help coordinate many of the system participants’ activities with regard to EMS and provide direct funding to some of the providers.

Since most of the EMS System participating agencies do not isolate revenue and expenditures directly derived from EMS patients, it is impossible to fully determine the resources devoted to this essential service.

The following sections describe the funding directly controlled by the County and EMS Agency and how those resources are distributed.

EMS SYSTEM REVENUE
The EMS System derives its funding from a number of sources. These include:

- Ambulance fee-for-service reimbursement
- County and municipal funding for fire agencies
- Benefit assessments (Measure H)
- State funding (SB 12)
- Grants
- Fees from training and trauma centers
The primary source of funding is from ambulance transport fees. This revenue is collected from third party payers including Medicare, MediCal, HMOs, insurance companies, and private parties. The reimbursement for ambulance transportation is retained by the ambulance contractor as partial payment for the services it provides.

The County, municipalities, and fire districts support the EMS program directly by providing fire agency first response to medical emergencies. Most of the fire first responders are trained to the EMT level while some have upgraded to paramedic. The current configuration and a plan to expand paramedic engine companies are discussed later in this report.

The EMS Agency receives and disperses funds from State (SB 12) and the benefit assessments collected by the County (Measure H). The SB 12 funds approximate $230,000 per year while the benefit assessment generates $4.5 million annually.

Other funds for the EMS agency are received directly from state and federal grants ($575,000) and fees ($92,000) from certification and from the trauma center. Most of the grant money is a direct pass-through to other agencies, such as the trauma center which, for example, received $420,000 in pass-through grant money in FY 2002-03.

Total funding excluding the patient fees and contributions to the fire agencies from their jurisdictions is approximately $5.4 million. Figure 1 graphically shows this revenue.
Figure 1. EMS Funding

EMS Revenue

- EMS Fund (SB 12) 4%
- Fees & Training 0%
- Grants 11%
- Trauma Center Fees 1%
- CSA-EM-1 (Measure H) 84%

EMS SYSTEM EXPENDITURES

The County and EMS Agency receives and disburses approximately $5.4 million annually. A number of programs and activities are funded and managed directly by the Contra Costa County EMS Agency and it retains a portion of the funding (15%) to fulfill its obligations.

The Agency owns/leases and provides the radio communications infrastructure used by the ambulance crews and hospitals. The Agency also purchases/leases automated electronic defibrillators used by the county’s fire first responders. The EMS Agency partially funds the ReddiNet system which monitors hospital capacity and diversion status.
The Agency is mandated to fulfill a number of functions as specified in the Health & Safety Code and from charges from the County Board of Supervisors which include:

- Planning, implementing, and evaluating emergency medical services
- Monitoring and approving EMT-I, paramedic, and Mobile Intensive Care Nurse (MICN) training programs
- Conducting credentialing programs for EMT-IIs, paramedics, and MICNs
- Authorizing advanced life support (ALS) programs
- Establishing policies and procedures for medical control of the EMS system, including those for dispatch, patient destination, patient care, and quality improvement
- Establishing ordinances and/or exclusive operating areas for the regulation of ambulance services
- Approving and monitoring Prehospital Continuing Education Providers
- Developing and implementing a trauma system plan
- Conducting an impact evaluation when notified that an acute care hospital plans to downgrade or cease providing emergency medical services
- Monitoring interfacility patient transfers
- Implementing EMS program enhancements funded under County Service Area EM-1 (Measure H)
- Tracking and monitoring hospital emergency and critical care capacity
- Procuring and monitoring emergency ambulance services, countywide
- Implementing and monitoring and Emergency Medical Services for Children (EMSC) Program, countywide
- Planning for and coordinating disaster medical response at local and regional levels

Approximately 73% of the funds managed by the EMS Agency are distributed to other agencies and specific programs. The following Table 1 provides examples of how some of these funds are disbursed.
Table 1. EMS Funds Disbursement

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<th>Agency / Program</th>
<th>Approximate Amount</th>
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<tr>
<td>Ambulance Service</td>
<td>$1.8 million</td>
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<tr>
<td>QRV First Response Units</td>
<td>$500,000</td>
</tr>
<tr>
<td>Fire Agency Ambulance Programs</td>
<td>$230,000</td>
</tr>
<tr>
<td>Fire Agency ALS First Response</td>
<td>$180,000</td>
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<tr>
<td>Fire Agency BLS First Response</td>
<td>$390,000</td>
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<tr>
<td>Hazmat Program</td>
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<tr>
<td>Sheriff Dispatch</td>
<td>$190,000</td>
</tr>
<tr>
<td>County Admin and Fee Collection</td>
<td>$430,000</td>
</tr>
<tr>
<td>Trauma System (FY2002-03 pass-through)</td>
<td>$420,000</td>
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The ambulance service receives $1.8 million per year in subsidy from the EMS system. The Agency also contracts separately with the ambulance service to provide non-transporting paramedic first response units (Quick Response Vehicles) in two of the more isolated locations of the County. These agreements are for approximately $500,000 annually.

The Fire Agencies receive approximately $800,000 per year. The fire agencies providing ambulance services (San Ramon and Moraga-Orinda) receive a total of $230,000. Contra Costa Fire receives $180,000 per year to offset a portion of its ALS engine company program and collectively the county fire agencies receive $390,000 in reimbursement for medical supplies.

The Sheriff Department receives nearly $200,000 per year for coordination provided by its dispatch center. The EMS Agency supports the Contra Costa Hazardous Materials emergency response program with a $150,000 allocation.

The County assesses the EMS System $430,000 annually for administrative fees and collecting the benefit assessments.
A pass-through grant from the State of approximately $420,000 was distributed to the trauma center.

Figure 2 provides an overview of the EMS System expenditures.

**Figure 2. EMS System Expenditures**

![EMS Expenditures Pie Chart]

- **Ambulance Contract**: 34%
- **Grant Expenditures**: 10%
- **Co Admin / Collection Fee**: 8%
- **Hazmat & Sheriff**: 6%
- **FD BLS First Resp**: 7%
- **FD ALS First Response**: 3%
- **FD Ambulance**: 4%
- **Contract First Response Units**: 9%
- **Personnel/Medical Dir/Oversight**: 15%
- **Other Services & Supplies**: 4%
KEY EMS SYSTEM FINDINGS AND RECOMMENDATIONS

OVERVIEW
Healthcare expenditures are challenging all of America. This is also true for ambulance services and EMS systems. The Centers for Medicare and Medicaid Services (CMS) has implemented a fee schedule for ambulance services to be phased in over five years. This will significantly reduce the amount reimbursed by Medicare for ambulance transportation in Contra Costa County. The national healthcare funding challenge has been exacerbated by the California economic crisis. MediCal reimbursement has been reduced by 5% in the most recent budget passed by the state legislature.

These decreases in funding have not reduced the expectations of the public with regard to emergency medical services. Nor have they reduced the commitment of the County, EMS Agency and EMS system participants to continue to provide the high level of care and responsiveness that the community has come to expect.

For these reasons, the Contra Costa County EMS System was examined in order to identify potential areas for economy and increased efficiency. This section focuses on potential modifications to the system that would improve the fiscal outlook while retaining the quality performance in the current EMS system. Each system issue is identified, discussed and is accompanied by a specific recommendation.

EMS SYSTEM MODIFICATIONS TO ENHANCE ECONOMIC PERFORMANCE

Capture More Patient Revenue for EMS System Ambulance Contractor
The three emergency ambulance providers in Contra Costa County are San Ramon Valley Fire, Moraga-Orinda Fire, and American Medical Response (AMR). Each provides emergency ambulance service under County contract. Exclusivity for emergency ALS ambulance services is allocated based on the designation of exclusive Emergency Response Areas (ERA) for each of the providers.
Two other types of ambulance transportation are provided within the County—non-emergency ambulance transport and critical care transport (CCT) services. Neither of these services is offered on an exclusive basis and any ambulance service can request and receive a permit to operate within the County and provide these services.

These non-emergency and CCT transports provided by other ambulance services represent a loss of available funding that could be used to support the EMS system. Many jurisdictions throughout the country, and a few in California, have recognized that capturing all available funding sources enhances the fiscal stability of the EMS system. In essence, non-emergency and CCT services subsidize the emergency response system.

AMR currently subsidizes its 9-1-1 system with its non-emergency ambulance transportation. Staffing ambulances for non-emergencies increases the number of ambulances available for emergency response and improves the utilization of the staff. But, there are a number of other ambulance services that provide non-emergency and CCT ambulance services in the county. The revenue derived from these transports does not support the emergency response system.

**Recommendation #1: Award exclusivity for non-emergency and CCT services to the Emergency Ambulance Service Contractor.**

The County should draft a new ordinance to award exclusive non-emergency and CCT transport services to the entity that provides Emergency Ambulance Services. This would capture lost revenue to support the EMS system. Realistically, it may be necessary to “grandfather” existing permitted ambulance services and allow them to continue to provide these services. At a minimum, the County should not allow any additional ambulance services to be permitted for these services.

**Transfer EMS Dispatch Coordination Responsibilities from Sheriff Department**

When the Sheriff’s Department first assumed the responsibility for coordinating EMS response to emergency medical events there were a number of competing ambulance
services. It was necessary for an outside agency to assign the ambulances for response and to designate the hospital destinations. Since that time, a number of changes have occurred. These include the reduction of ambulance services to a single provider and the improvements in technology, radio communications, and the installation of the ReddiNet system to identify hospital capacity.

Many of the functions currently provided by Sheriff’s Dispatch are redundant and are not delivered in the most appropriate location. Both the Contra Costa County Fire Dispatch and AMR’s Dispatch have more day-to-day interaction with the EMS system. The current EMS responsibilities of the Sheriff’s Department Dispatch could be easily assumed by either of these entities without additional funding.

Recommendation #2: Relocate the EMS coordination functions provided by the Sheriff’s Department Dispatch to Contra Costa County Fire Dispatch or the ambulance contractor’s dispatch center without financial support.

Contra Costa County Fire Dispatch currently dispatches the vast majority of EMS responses, both by fire agencies and the ambulance service. The ReddiNet system is installed and utilized. The coordination function of assigning ambulance response is no longer necessary in the county EMS system except in the event of a disaster or multi-casualty incident. Fire Dispatch or the ambulance contractor’s dispatch has more direct knowledge of available resources and their locations and can divert ambulances or fire units to support the emergency events. This reassignment of responsibilities will also eliminate the confusion caused by having too many agencies involved in allocating other agency resources in a disaster or multi-casualty event.

Either of the Dispatch Centers should be able to assume the EMS functions currently being provided by the Sheriff’s dispatch center without adding additional personnel, hardware, or other expenses. Therefore, these entities should not require the $190,000 currently provided to the Sheriff’s Department and this money can be used to improve the financial performance of the EMS system. One possible use of these funds would be to
support the existing dispatch centers utilization of emergency medical dispatching systems.

The Sheriff’s Department Dispatch also functions as the after-hours answering point for County Health Officer telephone calls. While not a part of the EMS function, the $190,000 of EMS funds also cover this service. Out-sourcing of this function should be considered at a reduced rate to one of the existing dispatch centers.

**Standardize Priority Dispatch Procedures Countywide**

Each of the three fire/medical dispatch centers in the County has implemented priority dispatch procedures. These procedures allow the call-taker to determine the seriousness of the medical event from information collected from the caller. The procedures identify the necessary response resources (e.g. first responder, ALS ambulance, BLS ambulance, multi-agency response, etc.). Currently, each center varies in its use and the outcome of the priority dispatching procedures. This often results in a full response of all resources to call that may not require first responders or ALS ambulances.

Standardizing the use of priority dispatch procedures will allow the EMS system to use its resources more appropriately. The patients that need the quickest response will initiate procedures where the responding units have the shortest response time requirements. Other incidents, which are not life-threatening or urgent, may be responded to with a slightly longer response time.

Implementation of standardized, fully optimized, priority dispatch procedures will also allow the fire agencies to conserve their resources and only respond when there first responder services are likely to be needed. If a fire agency desires, it can still respond to all medical calls or a subset of calls that meet a minimum criteria.
Recommendation #3: Require use of standardized priority dispatch procedures at all centers answering 9-1-1 calls for medical assistance.

Full use of priority dispatch procedures allows the EMS system to match resources and response time requirements to the severity of the medical event. Optimizing the use of these procedures will allow fire agencies to reduce unnecessary responses and allow the ambulance service to match the ambulance capability (ALS vs. BLS), and response time performance requirements to the severity of the medical event.

Allow use of basic life support (BLS) ambulances to respond to EMS calls on a limited basis.

If priority dispatch procedures are fully implemented, it is possible to identify a subset of 9-1-1 calls for medical assistance that can be appropriately handled by BLS ambulances. This is not financially feasible in the less populated areas of the County, but could result in savings in the densely populated areas. As much as 60 to 70% of emergency ambulance requests do not require the services of paramedics. If a small portion of these calls could be handled by BLS ambulances, the system would save money and be able to reserve its ALS resources for the patients who are more likely to need these higher level services.

If BLS ambulances are allowed to respond to emergency requests, it is necessary to implement a comprehensive monitoring system to ensure that the patients who require ALS actually receive the ALS services. Fortunately, many EMS systems throughout the country have implemented such programs and the medical priority dispatch systems have mechanisms to ensure that if there is any question regarding the severity of the event, the higher level resources are responded.
Recommendation #4: Allow limited use of BLS ambulances to respond to emergency medical calls.

Establish procedures and performance requirements in order to allow the limited response of BLS ambulances to emergency medical requests. Continually monitor the performance of the system to ensure that patients requiring ALS services are receiving them. Incorporate the new procedures and performance requirements in the Ambulance Service RFP and agreement.

Modify ambulance crew configuration

The Contra Costa County EMS system design requires each ambulance to be staffed with two paramedics. The majority of the ALS EMS systems in the country operate with a minimum of one paramedic and one EMT. Modification of the EMS crew configuration from two paramedics to one paramedic and one EMT could save the system more than $1 million annually.

There are no clinical studies to support that one system performs clinically superior to the other and the fact that most of even the high performance EMS systems operate with one paramedic indicates that any benefit derived from having two paramedics is outweighed by the cost. Better clinical value may be achieved by creating a more financially stable EMS system that focuses on performance, monitoring, and quality improvement.

Recommendation #5: Require that minimum ALS ambulance staffing include at least one paramedic.

Modifying the ALS ambulance crew minimum staffing requirements to allow for one paramedic and one EMT will allow the reallocation of funds to improve other components of the EMS system while there is no evidence that there would be any negative clinical impact.

This change will significantly mitigate the decreases in Medicare and MediCal reimbursement and allow the system to become financially stronger.
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The County EMS Agency should immediately modify the crew configuration requirement to a minimum of one paramedic on ALS ambulances. This will allow the current contractor to replace paramedics with EMTs through attrition over the next several months. This will be less disruptive to the existing workforce than an immediate change when a contract is selected in the upcoming procurement cycle. Provisions should be included to ensure that the only paramedics replaced in the interim are from normal attrition and that savings would revert to the County—not the Contractor.

**RECOMMENDATIONS TO IMPROVE CLINICAL QUALITY**

The clinical quality of an EMS system is based on responding appropriately trained personnel, with sophisticated equipment and medications to the scene of an emergency medical event within an appropriate time-frame. In other words, get the right people to the right place in the right amount of time. A number of factors determine the ability of an EMS system to achieve this goal. Paramount is to ensure that the personnel (EMTs and paramedics) have the right training and are using the right clinical protocols (treatment guidelines). The following recommendations are designed to assist in achieving high quality clinical performance.

*Expand role of Medical Advisory Committee.*

The Medical Advisory Committee is made up of physician representatives for the receiving hospitals, trauma center, medical directors and the County’s Medical Director. Their involvement has not been well defined and needs to be enhanced. The medical community and specifically its physicians define the system’s standard of care. The members of this committee should be actively involved in developing clinical protocols, monitoring the system’s clinical performance, and improving the system’s performance through quality improvement processes.
These physicians can also function in the role of system advocates and educators to make other physicians and the medical community more aware of how the EMS system works and what improvements are forthcoming.

**Recommendation #6: Expand and define the role of the Medical Advisory Committee.**

The roles and responsibilities of the Medical Advisory Committee should include more authority to make system changes regarding clinical performance and include specific functions to monitor and improve the system. The Physician’s Advisory Committee should deliver a report documenting the clinical performance of the system including its strengths and weaknesses to the Emergency Medical Care Committee (EMCC) for inclusion in its annual report to the Board of Supervisors.

**Increase the time commitment of the Medical Director.**

Currently, the Contra Costa County EMS Medical Director is a part-time position. Implementing necessary improvements and monitoring of the clinical components of the EMS system have become more complex and time-intensive.

As the fire agencies expand their ALS first response programs, the number of paramedics will expand significantly. The only way that a Medical Director can be effective in this expanded role of monitoring, training, and overseeing more paramedics and agencies delivering ALS is to increase the time committed to the role.

**Recommendation #7: Employ the equivalent of a full-time Medical Director to oversee the EMS System’s clinical performance**

The Medical Director’s position should be expanded to the equivalent of a full-time Medical Director. This will enable the County EMS Agency to monitor the increasing number of paramedic providers and ALS agencies. In addition, the County should take a larger role in monitoring those agencies providing BLS and non-emergency services, including first responder agencies.
ENGINE-BASED ALS FIRST RESPONSE TRANSITION ISSUES

The expansion of the engine-based ALS first responder program will require a number of planned activities. The following recommendations highlight the more significant. These recommendations apply only to those areas of the county currently served by private ambulance service. Both Moraga-Orinda and San Ramon Valley Fire have implemented ALS first responder services in conjunction with ALS ambulance service within their respective Emergency Response Areas.

Phase in engine-based ALS first response by zone.

Five zones have been identified for the phasing in of engine-based ALS first response. The zones were created with operational effectiveness as the requirement for the boundaries. The zones were designed to allow for increased response times by the ambulance provider when ALS care is provided by first responders. It would be impossible for the ambulance contractor to develop a system where one community had one set of response time performance requirements and an adjacent community had different performance requirements. Therefore, zones were established that would allow the ambulance service to modify response times when the fire agencies within the zone were able to deliver ALS first response within the same response time performance levels that are now required from the ambulance service.

Recommendation #8: Establish operational zones for the phase in of engine-based ALS response.

Five zones have been established for the phase in of engine-based ALS first response. They are:

A. The City of Richmond
B. The remainder of West County (excluding Crockett)
C. Central County
D. Pittsburg/Antioch and surrounding areas
E. East County served by East Contra Costa FPD
All areas of the County will not be able to implement engine-based ALS first response at the same rate. Two areas will likely need an extended time period before considering ALS engine companies (Richmond and East County). The Central County Zone has nearly achieved full ALS first response while West County includes a number of fire agencies at varying positions of ALS implementation.

Establishing the described zones will allow fire agencies to implement ALS first response in a manner that savings from the ambulance service’s deployment requirements can be achieved. This will also speed the implementation or fire-based ALS since the benefits will not be delayed until all fire services in the County have upgraded to ALS first response.

**Partially fund fire service engine-based ALS first response**

When savings are achieved by the ambulance contractor, it will be possible to reallocate some of the system funding in order to support the on-going costs of the fire service engine-based ALS first response program.

It is unlikely that savings and funds will be available to entirely fund the engine-based ALS program, but a significant amount of the fire service costs could be covered.

**Recommendation #9: Phase in funding for fire service engine-based ALS first response.**

The EMS Agency should develop procedures for partially funding the engine-based ALS program as each zone is fully covered by ALS first response and the fire agencies have demonstrated response time performance equivalent to the current ambulance service response time requirements. Activities of the fire services should also meet the requirements for Quality Improvement and meet the county standards for R.N./Physician review. These activities are anticipated to be completed with the County EMS Agency and are required prior to funding. This demonstrated performance should occur over three consecutive months prior to the allocation of funds to the fire agencies.
The total amount to be funded will be determined by the results of the Ambulance Service Procurement and the available funds eliminated from the service’s subsidy. The subsidy would be reduced by an agreed upon amount with the fire service ALS coverage of each zone.

The financial support for each fire agency should be based on the number of stations with ALS first responders and should be a fixed amount, regardless of the agency or station location.

**Participating ALS fire agencies shall be required to meet performance requirements similar to those of the ambulance service contractor.**

In order to protect the County’s EMS patients, performance must be defined and maintained. Therefore, if the fire agencies are to assume some of the roles and responsibilities previously required from the ambulance contractor, they should be held to similar performance standards.

Requirements for maintaining response times, clinical training, quality improvement, and system participation should be developed and included in separate agreements between the EMS Agency and each of the ALS fire services. Consequences for inadequate performance should also be included such as reductions in funding if performance standards are not achieved. Financial consequences for non-performance are important components of the County’s agreement with the ambulance contractor and similar provisions should apply to other system participants.

**Recommendation #10: Develop performance requirements for ALS first responder agencies.**

An agreement should be drafted and executed between the County and each of the ALS first responder agencies. These agreements should mandate performance standards similar to those required of the ambulance contractor. Consequences for non-
performance should be delineated including financial reductions of County support for non-performance.

Accountability is necessary to ensure that modifications in the EMS system design do not negatively impact the EMS patients.

Provide matching funds to fire agencies beginning to implement ALS first response

Some of the fire agencies have yet to implement an ALS first responder program. While funds are inadequate to cover the full costs of start-up, the County EMS Agency has limited reserve funds that could assist these agencies by providing initial “seed” money in a matching fund type of process. These funds should be limited and funding of a fire agency should be on a case-by-case basis.

Recommendation #11: Provide initial matching funds to fire agencies initiating ALS first responder services.

The County EMS Agency should determine the total amount of funds available for the matching fund program. After determining the number of fire agencies that have not initiated ALS first response, the funding formula could be established.

The County should use an application process where the fire agencies would request funding and demonstrate how the funding would be used and the fire service’s ability to provide internal funding for a portion of the costs.

UNRESOLVED ISSUES

There are two on-going and unresolved issues that need to be addressed. They both have to do with unfunded ambulance transports required from the ambulance contractor. One issue is the number of ambulance transports that are provided by the Contractor for County Health Plan members and the other is related to the number of mental health (51-50) transports.
The County has bundled these transports into the subsidy provided to the ambulance contractor by indicating that the costs incurred are covered by the subsidy payments. The envisioned system design may yield a system where the ambulance contractor would not receive a subsidy. The savings identified by changes in the crew configuration and response times may eliminate most or the entire subsidy requirement.

**Compensate Ambulance Contractor for County Health Plan member ambulance transports**

Currently, the ambulance contractor provides up to 3,687 transports to County Health Plan Members, annually. Compensated at MediCal rates, this would represent a value of more than $500,000. Furthermore, there is no incentive for the Health Plan providers to limit utilization of ambulance services until nearly 3,700 transports are completed. Systems that do not have utilization controls often lead to over-utilization.

**Recommendation #12: Establish an amount for compensating the ambulance contractor for transporting County Health Plan members.**

A transport fee should be established and stipulated in the Ambulance Service RFP. This fee would be paid to the Ambulance Contractor based on invoices for transporting County Health Plan members.

A per transport fee would encourage utilization controls by the Health Plan providers and would result in specific compensation to the ambulance contractor for these transports. The fee should approximate the MediCal rates for ambulance reimbursement.

**Compensate Ambulance Contractor for mental health ambulance transports**

Mental health (51-50) ambulance transports approach 3,000 per year. Compensated at MediCal rates, this would represent a value of more than $400,000. Compensation for these transports is important for the same reasons identified for County Health Plan transports. Currently, the ambulance Contractor is responsible for attempting to collect directly from these patients or from their insurance companies. Reimbursement is very
low for these patients. The County should work with the ambulance contractor to identify less costly methods of handling many of these transports that do not require medical services.

**Recommendation #13: Explore alternative methods to address the mental health transports and explore partial compensation sources for these transports.**

The ambulance contractor should continue to attempt to collect fees from patients and insurers for mental health transports. The County and the Contractor should work together to identify more cost effective methods to provide services and explore other funding sources.
COUNTYWIDE PARAMEDIC ENGINE COMPANY ANALYSIS

INTRODUCTION

This section includes the preliminary of the Consultant regarding the costs associated with expanding Paramedic Engine Companies countywide. The premise of the project is that patients benefit from rapid response and access to advanced life support (ALS) interventions and that the Fire Agencies are best deployed to deliver the services in the shortest period of time. If this premise is accepted, then it is appropriate for the system to reallocate funding to implement and maintain this model of service delivery.

If the Fire Agencies can reliably deliver ALS quicker, then it is clinically appropriate to lengthen the response times of the transporting ambulance. Literature and research support that timeliness of care delivery is a factor in patient outcome for two primary sets of patients—the cardiac arrest patient where defibrillation within a few minutes significantly improves survival rates and the trauma patients who need to receive surgical intervention within one hour. The vast majority of patient illnesses and injuries are not as time sensitive, especially when we are referring to a three to five minute delay.

The geographic deployment of fire stations throughout the County lend to relatively short response times. If the responding apparatus is capable of providing ALS services the patients will have a better chance for a positive outcome. Previously, the patient was dependent on the ambulance service to consistently deliver ALS. This factor was considered by system designers when the ambulance response time performance requirements were established.

If ALS is provided by engine companies and the system is not dependent upon the ambulance services as the sole provider of ALS, then the response time of the ambulance services are not as time critical. ALS care is provided by the initial responders and those patients with the most life-threatening illnesses or injuries will require stabilization and ALS treatment prior to transport. Therefore, the delay of the ambulances by three to five minutes will have minimal impact of the system’s patient outcome results. In fact,
survival rates should increase in the small subset of patients in life-threatening circumstances because of the receipt of earlier provision of ALS.

Easing the Ambulance Contractor’s response time requirements allows fewer staffed ambulance hours to be deployed, thus reducing the cost of provision of ambulance services. The most expensive component of providing ambulance services is the deployment of adequate ambulances and crews to achieve defined emergency response times. This is no different than the costs associated with fire services. The most expensive component is the provision of stations, apparatus, and personnel to be ready to respond to emergency incidents and fires. The cost of readiness by the deployment of resources far exceeds the direct cost of suppressing fires or responding to emergency incidents. The same is true of ambulance system deployment.

Another potential area of savings to the Ambulance Contractor is if the County EMS system would eliminate the requirement for two paramedics to staff each ambulance. Many systems respond to medical emergencies with ambulances staffed with one paramedic and one EMT. There is a significant salary difference between paramedics and basic EMTs. If the Contra Costa County EMS System were to modify this requirement, the Ambulance Contractor’s operational costs would be reduced.

The transition of the County’s EMS system to include paramedic engine companies would result in two paramedics being on the scene of the vast majority of medical emergencies. This reduces the benefit of having two paramedics on the ambulance to provide care in those infrequent incidents where more than one paramedic is needed.

The findings of this report analyze the costs of implementing and maintaining a paramedic engine company system on a countywide basis. The potential savings that could be derived by modifying performance requirements of the Ambulance Contractor are also quantified.
METHODOLOGY

Concurrent activities were conducted to identify the costs of the countywide paramedic program and to quantify potential operational cost reductions for the Ambulance Contractor if system performance requirements were modified.

Identifying the Costs of Countywide Paramedic Engines

The Consultant created a template to capture the factors that impact the cost of providing ALS engines for each fire agency. An on-site interview was conducted with fire administration for each fire agency in the County. The interviews identified the current status of each fire agency in upgrading to ALS engines, number of stations, current number of licensed paramedics, wages, premium pay provisions, level of interest, and a number of other pertinent data.

After the initial round of interviews the data was compiled and a summary of the additional one-time costs to expand ALS engines countywide was prepared. The ongoing costs of supporting an ALS engine system were also quantified.

The next step was to conduct a three-hour workshop with representatives from the county fire agencies and the Consultant. The outcome of this workshop was to validate important assumptions, corroborate the data collected and the logic used to determine the start-up and recurring costs of providing ALS via fire engine companies. The assumptions and the resulting summary of one-time and recurring costs are included in Appendices A and B.

The Consultant then used input from the workshop and additional follow-up with the Fire Agencies to revise the initial data collected, assumptions, and costs. These were presented at the second workshop with the Fire Agencies prior to being finalized.
Quantification of Operational Cost Reductions of the Ambulance Contractor

The second project involved the identification of savings that could be achieved by the Ambulance Contractor if specific performance standards were modified.

The two primary performance requirement adjustments considered were the modification of the crew configuration requirement to allow one paramedic and one EMT to staff an ambulance rather than mandating that two paramedics must be on each unit. The second was to consider the cost reductions associated with the lengthening of emergency response times to 13 minutes and 15 minutes with 90% reliability.

The Ambulance Contractor provided additional important information regarding training requirements, operational constraints of the system, and very comprehensive financial and operational data.

One important task assigned to the Contractor and completed was to develop a zone methodology that was operationally consistent with ambulance deployment and response. The purpose of creating the zones was to accommodate a phased-in expansion of ALS engine companies that would allow the Contractor to have relaxed response time performance in areas where the fire agencies were able to provide ALS first responders.

In order to calculate potential savings from performance requirement changes, the Consultant required specific financial and operational data from the Contractor. Specifically, the data requested included gross billings, net collections, the quantity and deployment of unit hours, the cost of unit hours, and wage information. With an upcoming procurement process, the Contractor was concerned about the public release of this confidential and proprietary information.

The Consultant agreed to protect the confidentiality of this information while still using the data to quantify savings opportunities. The Contractor provided all of the requested information that was more than adequate to estimate potential savings.
It is important to assert that all Contractor savings estimates were calculated by the Consultant and not corroborated or determined by the Ambulance Contractor.

The Consultant met with Contractor representatives on at least three different occasions to describe the process and collect the necessary information. The result of this process was to quantify the potential savings, by zone, of the implementation of a crew configuration requirement of one EMT and one paramedic, and the cost reductions anticipated if emergency response times were increase by three minutes or five minutes.

Other areas for system improvement and cost savings were also discussed for consideration in the drafting of the Ambulance Service Request for Proposals.

**FINDINGS**

The following sections describe the findings of the project with respect to ALS Engine Company costs and potential reductions in Ambulance Contractor expenses. Each component is presented on a zone and countywide basis. The ALS first responder costs are also categorized as one-time start-up costs and recurring costs to support the ALS engine program.

**Paramedic Engine Costs**

Each fire agency has differing operations, wage structures, deployment models, resources and levels of implementation of ALS first response. Therefore, it was necessary to visit each agency and discuss the unique characteristics of the service. This also offered the opportunity to review the goal of the department with regard to ALS implementation and the priority of other issues that may constrain advancement of ALS engine companies.

The data collected included the number of stations, number of engine companies, the staffing of each company, base wages, premium paid for ALS, and the number of paramedics currently employed by the department. A data sheet was completed for each agency. The collected information is presented in Appendix C.
Using the information collected during the on-site interviews, it was possible to develop a set of assumptions to be used in calculating ALS first responder costs. Some of the assumptions were determined by averaging fire agency data and others were identified from other sources.

These assumptions form the basis of the cost calculations and include the number of hours required for paramedic training, continuing education requirements, supplies and equipment requirements, wages, benefit percentages, and calculations to identify the number of paramedics that are required for each fire agency. The assumptions are presented in Appendix A.

The assumptions were discussed in detail at the two Fire Agency workshops. Based on input from the attendees, they were modified and it was agreed that the assumptions accurately reflected costs and operational factors existing in Contra Costa County.

The final step was to combine the information collected from each agency and the system assumptions to determine an estimate for the expenses that would be incurred to implement and maintain a countywide ALS engine response to medical emergencies.

These costs are summarized by agency, zone, and system-wide in Appendix B.

The total costs to the fire agencies to establish a countywide paramedic engine program is approximately $4.2 million. This is estimated to be the maximum amount necessary to establish paramedic response from all fire stations located within the County. It does not include allocations for full-time paid staffing in Crockett and does not address the issues in East Contra Costa related to pay scales and the number of persons assigned to fire apparatus.

The start-up cost estimates include paying for 672 hours paramedic training at overtime rates for all new paramedics in the system with the exception of those identified by
County Fire as being added through newly hired recruits. More than 70% or $3 million of the cost is for wages to pay for firefighters to be trained to paramedic levels. Many agencies do not pay for hours of training or they hire new firefighters with paramedic credentials. Therefore, the start-up costs can be significantly reduced in implementation. It is estimated that the start-up costs could be lowered by at least $1.5 million if alternative methods to increasing fire agency paramedics are used.

The recurring costs for a fully implemented engine-based paramedic first response program on a countywide basis are estimated at $3.0 million annually. These expenses include $490,000 per year for medical direction, ALS coordination, and system monitoring. Approximately $1.8 million is allocated to the firefighter paramedics in the form of ALS premium pay and overtime for continuing education.

The one-time and recurring costs are summarized in the table below (Table 2).

Table 2. ALS Engine Company Cost Summary

<table>
<thead>
<tr>
<th>Countywide Paramedic Engine Company Expenses</th>
<th>Wages</th>
<th>Training Expenses</th>
<th>Supplies &amp; Equipment</th>
<th>Medical Direction &amp; Monitoring</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Time Expenses</td>
<td>3,037,015</td>
<td>352,336</td>
<td>846,000</td>
<td></td>
<td>4,235,351</td>
</tr>
<tr>
<td>Recurring Expenses</td>
<td>1,846,913</td>
<td>48,413</td>
<td>624,435</td>
<td>488,440</td>
<td>3,008,201</td>
</tr>
</tbody>
</table>

The on-going expenses to the fire agencies to maintain a paramedic engine first response program will approach $55,000 per fire station per year. To train, equip, and establish an ALS engine company it will cost approximately $118,000 per station.

**Ambulance Contractor Operational Savings**

It is not reasonable to assume that a countywide fire-based paramedic first response program could be implemented at one time. It would need to be phased in over a period of several years. This is largely due to the time it takes to train paramedics and the
availability of training venues. With this consideration, the Ambulance Contractor was asked to revise the current zone structure to reflect operational areas where if the fire agencies could implement ALS first response in a particular zone, the Ambulance Contractor would be able to operationally modify response time levels and crew make-up in one zone while maintaining current performance levels in other zones. A map of the current ambulance service areas and the Contractor recommended operational zones are included in Appendix D.

**Savings Due to Crew Configuration Changes**

Paramedics are paid at a significantly higher rate than EMTs. The current system requires that all emergency ambulances be staffed with at least two paramedics. The cost of deploying ambulances could be reduced if the Contractor were to staff the ambulances with one paramedic and one EMT. This would not decrease the service’s ability to continue to deliver paramedic care in medical emergencies.

The savings is based on the differential of pay between paramedics and EMTs and the number of staffed ambulance hours. The calculations assume a workforce mix of 60% paramedics and 40% EMTs. This is necessary to ensure that every ambulance has at least one paramedic given illness, vacation, and other absences of personnel.

The total savings possible if all ambulances in the County were staffed with one EMT and one Paramedic instead of two Paramedics is $1.2 million annually.

The amount of savings will decrease if extended response times are allowed within specific zones. The reason for this is that extended response times allow the Contractor to reduce the number of unit-hours (staffed ambulance hours) and therefore fewer hours of staffing will reduce the savings incurred by changing the crew training levels.

**Savings Estimates for Extending Response Times**

The second area of savings that was explored in this phase of the project was to look at the impact of relaxing response times for the ambulances with the implementation of
paramedic first response from the fire agencies. Two scenarios were considered. First, if emergency response times were extended to 13 minutes with 90% reliability and secondly if the emergency response times were allowed to be 15 minutes with 90% reliability.

The savings gained from extended response times are due to the fact that the Contractor could reduce the total number of ambulance unit-hours that it deploys in order to comply with the system’s performance requirements.

The Contractor would not be able to reduce unit-hours in two of the zones even if response times were increased. These areas are Zone A (Richmond) and Zone E (East Contra Costa County Fire District).

These zones represent the two extremes of the system. Richmond is an urban area with high demand for ambulance services. The demand dictates the minimum number of ambulances and unit-hours that must be deployed. If the number of unit-hours were reduced the ambulances would not be able to accommodate the demand. Response times in Richmond already far exceed the performance requirements. In essence, the number of unit-hours that the Contractor deploys in Richmond is the minimum number required to meet the demand.

East County represents the other extreme. East County has a large geographic area that has to be covered by the Ambulance Contractor. The number of ambulances and unit-hours currently deployed are necessary to cover the large service area and even if response times were relaxed by three or five minutes, the same number of unit hours will need to be deployed in order to adequately cover the service area.

All other zones offer an opportunity for the Contractor to reduce its expenses if response times are extended.
The savings for increasing response times is based on a potential reduction in unit-hours and the cost of those unit hours. This is measured by zone and determined for a three-minute increase in response time allowances and a five-minute increase. The estimate was provided on a 90% compliance rate with the current exemptions offered for unusual circumstances.

The three zones in which savings are realized are Zones B, C, and D. The savings for a 13-minute response time range from $300,000 per year in zone C to nearly $550,000 in zone D. The 15-minute response time results in savings of $700,000 in Zones B & D and $815,000 in Zone C.

Total potential annual savings with a 13-minute response time requirement is $1.2 million and $2.2 million for a 15-minute response time.

**Summary**

Table 3 summarizes the estimated savings of changing the crew configuration and relaxing response times.

**Table 3. Ambulance Contractor Savings Summary**

<table>
<thead>
<tr>
<th>Zones</th>
<th>No Response Time Change</th>
<th>13 Minute Response Time</th>
<th>15 Minute Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone A</td>
<td>EMT/EMT-P Savings: 218,877</td>
<td>Unit Hour Savings: 218,877</td>
<td>EMT/EMT-P Savings: 218,877</td>
</tr>
<tr>
<td>Zone D</td>
<td>EMT/EMT-P Savings: 300,311</td>
<td>548,360 EMT/EMT-P Savings: 264,559</td>
<td>812,920 EMT/EMT-P Savings: 955,311</td>
</tr>
<tr>
<td>Zone E</td>
<td>EMT/EMT-P Savings: 100,104</td>
<td>100,104</td>
<td>100,104</td>
</tr>
<tr>
<td></td>
<td><strong>Total:</strong> $1,243,350</td>
<td><strong>Total:</strong> $1,200,300</td>
<td><strong>Total:</strong> $2,365,394</td>
</tr>
</tbody>
</table>

Summary of Potential Savings for Changes in Crew Configuration and Extention of Response Times by Zone
CONCLUSION

The results of this phase of the project indicate that the potential savings available to the Ambulance Contractor exceed the recurring costs of providing fire-based ALS first responders. The savings are inadequate to cover the start-up costs of the program. The results are summarized below in Table 4.

Table 4. ALS First Responder Costs and System Savings Summary

<table>
<thead>
<tr>
<th>Zone</th>
<th>One-Time Expenses</th>
<th>Recurring Expenses</th>
<th>Crew Change Savings</th>
<th>Max Response Time Savings</th>
<th>Total Savings</th>
<th>Savings Less Recurring Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone A</td>
<td>1,041,812</td>
<td>404,031</td>
<td>218,877</td>
<td>-</td>
<td>218,877</td>
<td>(185,154)</td>
</tr>
<tr>
<td>Zone B</td>
<td>1,123,225</td>
<td>662,673</td>
<td>113,212</td>
<td>694,590</td>
<td>807,802</td>
<td>145,129</td>
</tr>
<tr>
<td>Zone C</td>
<td>439,880</td>
<td>1,034,871</td>
<td>412,331</td>
<td>816,448</td>
<td>1,228,779</td>
<td>193,908</td>
</tr>
<tr>
<td>Zone D</td>
<td>185,212</td>
<td>435,735</td>
<td>254,629</td>
<td>700,683</td>
<td>955,311</td>
<td>519,576</td>
</tr>
<tr>
<td>Zone E</td>
<td>1,445,221</td>
<td>470,891</td>
<td>100,104</td>
<td>-</td>
<td>100,104</td>
<td>(370,787)</td>
</tr>
<tr>
<td>TOTALS</td>
<td>4,235,351</td>
<td>3,008,201</td>
<td>1,099,153</td>
<td>2,211,720</td>
<td>3,310,873</td>
<td>302,672</td>
</tr>
</tbody>
</table>

The implementation of a fire-based ALS first responder program is feasible in Contra Costa County. Some resources can be re-allocated within the system to help support the program. Inadequate funds exist to pay the full cost of implementing and maintaining the program, but a matching grant allocation can be developed to offset some of the fire agencies’ costs.

Not all fire agencies are in the position to implement the program at this time. This is particularly true of Richmond and East County Fire Services. These services are in Zones by themselves; therefore, should not preclude other fire agencies from implementation.

In order for the system to maintain its high level of care, it will be necessary to implement ALS first response with changes to the Ambulance Contractor’s performance requirements on a zone-wide basis. All fire agencies within a zone must be able to offer ALS first response from most of the fire stations before the Contractor can decrease performance requirements. There may be exceptions (i.e. Crockett), but alternative support for these areas will be required.
ALS FIRST RESPONDER TRANSITION

OVERVIEW

It is intended that a mechanism be established to allow fire agencies to gradually implement ALS first response on a station-by-station basis. As performance of the ALS first responders is demonstrated, funds will be allocated to help support the engine-based ALS program.

This process will require that zones be established, criteria for measuring performance be developed, and a mechanism to distribute funds be created. The following sections describe the concept.

TRANSITION ISSUES

ALS First Response Zones

ALS First Response zones have been created within the County to facilitate the phasing in of engine-based ALS first response. The five zones were created considering the ambulance service operational requirements. Once an entire zone is able to deliver ALS first response and meet the performance criteria, the ambulance service will be able to extend its response time requirements to life-threatening emergencies by 3 minutes to 13 minutes. Fire and first responder services for all zones except Zone B are provided by a single fire agency (one station in Zone E is contracted to CFD). This facilitates the progression of ALS stations and provides the ability for fire agencies to plan and implement ALS first response coverage. The Zones and included fire agencies are listed in Table 5 below:
Table 5. Proposed ALS First Responder Zones

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>City of Richmond</td>
</tr>
<tr>
<td>B</td>
<td>El Cerrito, Rodeo-Hercules, Pinole, Crockett, Contra Costa County Fire</td>
</tr>
<tr>
<td>C</td>
<td>Contra Costa County Fire</td>
</tr>
<tr>
<td>D</td>
<td>Contra Costa County Fire</td>
</tr>
<tr>
<td>E</td>
<td>East Contra Costa County FPD</td>
</tr>
</tbody>
</table>

A map of the proposed zones is included in Appendix D.

**Matching Funds for ALS Start-up**

The County EMS Agency has a limited amount of reserve funds that could be made available to assist fire agencies that have yet to initiate an ALS first response program. The Agency should quantify the available funds and develop a matching grant program to assist these agencies in initiating an ALS engine-based first responder program.

The funds should be made available through and application process that demonstrates the fire agency’s ability and will to provide the matching funds and implement a program.

Other funding sources should be solicited in funding these start-up programs.

**Performance Criteria for Engine-based ALS First Response**

In order to ensure that the community receives the level of service and quality of care currently being provided, it will be necessary to develop performance criteria for the participating fire agencies. These criteria are similar to those required of the ambulance contractor.
A performance-based agreement between the County EMS Agency and the participating fire agency should be created that defines the performance criteria and the on-going financial support to be provided to the fire agency.

Examples of some of the criteria that should be included are:

**Training Level**—The ALS first response units should be staffed with minimum of one paramedic, one EMT-Intermediate, or one EMT with optional skills that must include defibrillation.

**Response Time Requirements**—All life-threatening requests for medical aid within an ALS First Response Zone (excluding those areas designated as rural) must be responded to within 10 minutes 90% of the time. Deductions in the financial support will be imposed for all calls not meeting the required response time levels.

**Medical Direction/Medical Control**—The fire agencies will agree to abide Medical Direction and Medical Control provided by the County EMS Agency.

**ALS Personnel Compliance**—Each of the ALS providers (EMT-Optional skills, EMT-Intermediate, and paramedics) will comply with the rules, regulations, policies, and procedures developed by the EMS Agency. The ALS providers and the fire agencies will also work with the Agency to develop and comply with policies for identifying caregivers that require additional training, remediation, and/or suspension or revocation of the privilege to provide care in the County EMS System.

**Integrated Quality Improvement Program**—All system participants will actively participate and follow the procedures required for a comprehensive Quality Improvement (Q.I.) program. This includes all fire agencies, ambulance services, hospitals, base hospital, dispatch centers, and the EMS Agency.

**Joint Training**—The fire agencies will participate in joint training programs with the ambulance service, hospital personnel, and dispatch centers as developed in conjunction with the EMS Agency.

**Standardized Dispatch**—All fire agencies that participate in the engine-based ALS program will insure that their respective dispatch centers follow the standardized
medical priority dispatch protocols. One outcome must be the delineation of the priority of response at a minimum of four levels:

- Priority One—Life-threatening emergency
- Priority Two—Urgent response (non-life threatening emergency)
- Priority Three—Immediate response (no red lights and sirens)
- Priority Four—BLS response is appropriate (no red lights and sirens)

The preceding criteria represent some of the key performance functions that must be achieved by fire agencies participating in the engine-based ALS first response program.

**Provide On-going Funding for Engine-based ALS Program**

The availability of funds will be dependent upon the outcome of the Ambulance Service Procurement Process. It is anticipated that there will be Measure H funds available to provide continuing support of the ALS first response program, but the total available will not be known until the finalization of the Ambulance Service Contract.

Once the Agency identifies the total funds available, it should calculate the amount that could be allocated to the participating fire agencies. The total available should be divided by the total number of fire stations in the County to determine the funding level. The fire agencies will be funded for each station operating at the ALS first response level on a 24-hour basis after performance within the ALS First Response Zone has been achieved.

In order for any fire agencies to be eligible for on-going funding support from the Agency, performance must be achieved on an ALS First Response Zone for three consecutive months. No on-going funding would be available until this zone-wide performance is achieved therefore allowing the Agency to modify the Ambulance Contractor’s response time requirements in order to achieve system savings and reallocation of funds to the fire agencies.
Interim Levels of Training

In order to facilitate the fire agencies’ transition to ALS first response, the criteria necessary for on-going reimbursement will include interim training levels for ALS personnel.

A fire agency could opt to initially staff engine companies with EMT-Intermediate or EMTs with optional skills as envisioned by the State. This will allow a fire agency to initiate ALS first response at significantly less expense and in a reduced time frame.
**PROVISIONS FOR AMBULANCE SERVICE RFP**

**OVERVIEW**

The Emergency Ambulance Service RFP will define some of the changes envisioned in the Contra Costa County EMS System. This section will delineate some of the most important modifications required to increase the efficiency of the system while improving the levels of service and quality.

**RFP PROVISIONS**

*Call Prioritization*

All requests for medical aid will be classified based on priorities. There will be at least three priorities and potentially four. They are:

- **Priority One**—Life-threatening emergency
- **Priority Two**—Urgent response (non-life threatening emergency)
- **Priority Three**—Immediate response (no red lights and sirens)
- **Priority Four**—BLS response is appropriate (no red lights and sirens)

Response time requirements will be developed for each of the priorities and for areas designated as urban/suburban and rural.

*Crew Configuration*

The RFP will include the minimum staffing levels for ambulance responding to Priority One through Three with a minimum of one EMT-Paramedic and one EMT-Basic.

*Countywide Response Time Performance Requirements*

The response time performance requirements for each call priority will be consistent countywide and the required performance will be at the 90% level. Each priority type will have a specific performance requirement. For example, Priority One calls will be
required to have a paramedic response within 10 minutes 90% of the time. Similar, but somewhat longer, response time requirements will be established for Priorities 2 – 4.

**ALS Transition Provisions**

Provisions will include the reduction of the Contractor subsidy when an ALS First Response Zone if fully served by ALS first responders and the fire agencies have achieved compliance for three consecutive months.

**ALS Quick Response Vehicles (QRV)**

The ambulance contractor will be required to deploy 24 hour ALS QRV in the County at up to three locations as part of its services covered under the Agreement. The locations will be jointly determined by the County EMS Agency and the Contractor.

**County Ambulance Transports**

The RFP will include provisions to compensate the Ambulance Contractor for County ambulance transports including members of the County Health Plan and the mental health (51-50) transports. A fixed fee for transport will be determined and included in the RFP.

**Integrated Quality Improvement (Q.I.) Program**

The RFP will require that the Ambulance Contractor assist in the development of and participate in an integrated Q.I. program which will include all EMS system participants.

**Critical Care Transports (CCT)**

The Contractor will be required to provide all CCT originating within the County and comply with the rules, regulations, and procedures developed by the Agency for these types of transports. Performance requirements will be included for CCT.
Summary

Many other provisions will be retained from previous RFPs while modification and updating of others will be accomplished. The provisions discussed above include those that represent the most significant changes.
The following schedule of events is anticipated for the Emergency Ambulance Service Procurement.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
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<tbody>
<tr>
<td>30 Sep 2003</td>
<td>Report Presentation to the Board of Supervisors</td>
</tr>
<tr>
<td>31 Oct 2003</td>
<td>Distribution of the RFP</td>
</tr>
<tr>
<td>14 Nov 2003</td>
<td>Pre-Bid Conference</td>
</tr>
<tr>
<td>15 Dec 2003</td>
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</tr>
<tr>
<td>10 Jan 2004</td>
<td>Selection Process Completed</td>
</tr>
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<td>13 Jan 2004</td>
<td>Selection Recommendation to the Board of Supervisors</td>
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<tr>
<td>27 Jan 2004</td>
<td>Presentation to Board of Supervisors, Negotiations Authorized</td>
</tr>
<tr>
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<td>Negotiations Complete</td>
</tr>
<tr>
<td>09 Mar 2004</td>
<td>Board of Supervisors Approval</td>
</tr>
<tr>
<td>01 Jul 2004</td>
<td>Contractor Startup</td>
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</table>
CONCLUSION

The process used to analyze the impact of ALS first responders and the development of mechanisms to provide financial support was designed to include:

- Flexibility for fire agencies to phase-in ALS first response
- Maintaining or improving the level of service and quality in the system
- Integrating the system into a more coordinated system involving multiple agencies
- Improving the financial performance of the EMS System
- Enhancing the long-term stability of the system

The findings and recommendations in this report will form the basis of the Emergency Ambulance Service RFP and resulting Agreement as well as the agreements with the participating fire agencies providing ALS first response. These elements will also provide a basis for defining and monitoring performance of all aspects of the EMS System.

Accountability and performance will be defined and retained. The financial performance of the system will be improved. Most importantly, the community will be well-served with the best available paramedic care and ambulance transportation that can be provided within the available resources.
Appendix A

Assumptions
### Training

**EMT-II**

<table>
<thead>
<tr>
<th>Didactic Hours</th>
<th>Max</th>
<th>Min</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max</td>
<td>225</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
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</tr>
<tr>
<td>Avg</td>
<td>200</td>
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<table>
<thead>
<tr>
<th>Clinical Hours</th>
<th>Max</th>
<th>Min</th>
<th>Avg</th>
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</thead>
<tbody>
<tr>
<td>Max</td>
<td>75</td>
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<td></td>
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<tr>
<td>Min</td>
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<td>Avg</td>
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<table>
<thead>
<tr>
<th>Field Internship</th>
<th>Max</th>
<th>Min</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>75</td>
<td></td>
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<tr>
<td>Avg</td>
<td>87.5</td>
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<table>
<thead>
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<th>Total Hours</th>
<th>Max</th>
<th>Min</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg</td>
<td>350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Tuition**: $2,720
- **Subsidized Tuition**: $2,720

**EMT-Paramedic**

<table>
<thead>
<tr>
<th>Total Hours</th>
<th>1040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reimbursed Hours</td>
<td>672</td>
</tr>
<tr>
<td>Tuition</td>
<td>$6,800</td>
</tr>
<tr>
<td>Subsidized Tuition</td>
<td>$3,800</td>
</tr>
</tbody>
</table>

- **Annual CE Hours**: 24
- **Training Costs per hour**: $10
- **Annual CE Training Costs**: $240

### Wages/Personnel

- **Average Engineer Base (Monthly)**: $5,702
- **Average Engineer Base (Annual)**: $68,426
- **Average Premium**: 10%
- **Average Benefit Percentage**: 43.0%
- **Add'l benefit (retirement)**: 15.0%
- **Calculated Avg Benefit Percentage**: 58.0%
- **Overtime**: 10%

<table>
<thead>
<tr>
<th>Average Hours/week</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average weeks/year</td>
<td>52.142857</td>
</tr>
<tr>
<td>Average hours/year</td>
<td>2920</td>
</tr>
</tbody>
</table>

- **Average ALS Hourly (Base)**: $23.43
- **Average Overtime (Base + Benefit)**: $48.74
  - Plus 10% premium: $53.62
  - Plus benefit %: $48.74
  - Benefits w/o premium: $48.74

---

1. Represents the number of hours County Fire reimburses for paramedic training
2. Represents state subsidized tuition costs
3. Includes books, supplies, and instructors
4. Average of 5 agencies (excludes East County, Crockett)
5. Average of 6 agencies (excludes Crockett)
6. Amount recommended by Fire Agencies to account for recent benefit changes
### Operations

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of initial Engine ALS Package</td>
<td>$20,000</td>
</tr>
<tr>
<td>Cost of initial Engine ALS Supplies</td>
<td>$2,500</td>
</tr>
<tr>
<td>Cost of supplies / medical call</td>
<td>$8.50</td>
</tr>
</tbody>
</table>

#### Staffing assumptions (ALS staff ratios)

<table>
<thead>
<tr>
<th>Stations</th>
<th>Staff Ratio per station/shift</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>1.50</td>
</tr>
<tr>
<td>3</td>
<td>1.33</td>
</tr>
<tr>
<td>4</td>
<td>per station/shift</td>
</tr>
<tr>
<td>5</td>
<td>per station/shift</td>
</tr>
<tr>
<td>6</td>
<td>per station/shift</td>
</tr>
<tr>
<td>7</td>
<td>1.29</td>
</tr>
<tr>
<td>8</td>
<td>1.25</td>
</tr>
<tr>
<td>&gt;30</td>
<td>1.17</td>
</tr>
</tbody>
</table>

#### Annual cost of equip maint/replacement

- $3,800

#### Communications Cost/Station

- Radios: $1,000
- Annual Cell Phone Costs: $240

### System Oversight

#### System Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Director (1/2 time)</td>
<td>$85,000</td>
</tr>
<tr>
<td>Coordinator/Staff</td>
<td>$80,000</td>
</tr>
<tr>
<td># FTEs / Coord/Staff</td>
<td>40</td>
</tr>
<tr>
<td># Coord/Staff</td>
<td>5.043</td>
</tr>
<tr>
<td>Total Coord/Staff</td>
<td>$403,440</td>
</tr>
<tr>
<td>Total # of ALS providers</td>
<td>201.72</td>
</tr>
</tbody>
</table>

---

7. Amount approximate to County Fire experience
8. Represents 1/2 time medical director
9. Estimate of annual amount for paramedic oversight
10. Number of paramedics overseen by one unit of coordinator/staff component
Appendix B

First Responder Cost Summary
### Engine-Based ALS Project

#### Per ALS Provider

<table>
<thead>
<tr>
<th>ALS Provider</th>
<th>Per Call</th>
<th>Per Station Sub-Totals</th>
<th>System Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>East County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Fire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Cerrito</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richmond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crockett</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>202</td>
<td>54</td>
<td>47,797,138,297</td>
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</table>

#### Per Station

<table>
<thead>
<tr>
<th>ALS Provider</th>
<th>Medical</th>
<th>Annual</th>
<th>Premium</th>
<th>Overtime</th>
<th>Total</th>
<th>CE on OT</th>
<th>Training Costs</th>
<th>Medical Supplies</th>
<th>Equipment &amp; Cellar</th>
<th>Cellular</th>
<th>Sub-Total</th>
<th>Expenses per Call</th>
<th>Expenses per Provider</th>
<th>Med Direction</th>
<th>Coord/Staff</th>
<th>System Sub Expense</th>
<th>Total Expenses per Station</th>
<th>Total Expenses per Call</th>
</tr>
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<tbody>
<tr>
<td>East County</td>
<td>34</td>
<td>9</td>
<td>4,200</td>
<td>39,641</td>
<td>269,580</td>
<td>43,429</td>
<td>8,100</td>
<td>35,700</td>
<td>34,200</td>
<td>2,160</td>
<td>389,169</td>
<td>43,241</td>
<td>92.66</td>
<td>14,221</td>
<td>67,500</td>
<td>81,721</td>
<td>470,891</td>
<td>52,321</td>
</tr>
<tr>
<td>Pinole</td>
<td>9</td>
<td>2</td>
<td>1,400</td>
<td>7,229</td>
<td>28,408</td>
<td>51,602</td>
<td>2,657</td>
<td>10,100</td>
<td>10,200</td>
<td>1,160</td>
<td>309,420</td>
<td>41,920</td>
<td>92.66</td>
<td>14,221</td>
<td>67,500</td>
<td>81,721</td>
<td>470,891</td>
<td>52,321</td>
</tr>
<tr>
<td>County Fire</td>
<td>105</td>
<td>30</td>
<td>32,000</td>
<td>707,772</td>
<td>282,249</td>
<td>135,113</td>
<td>225,000</td>
<td>272,000</td>
<td>114,000</td>
<td>9,100</td>
<td>261,762</td>
<td>45,992</td>
<td>93.12</td>
<td>13,141</td>
<td>254,244</td>
<td>63,167</td>
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<td>112,118</td>
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<td>3</td>
<td>2,100</td>
<td>81,906</td>
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<td>94,192</td>
<td>5,403</td>
<td>17,850</td>
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<td>720</td>
<td>134,681</td>
<td>47,479</td>
<td>87.30</td>
<td>11,900</td>
<td>24,390</td>
<td>181,290</td>
<td>161,629</td>
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<td>7</td>
<td>6,669</td>
<td>184,751</td>
<td>27,713</td>
<td>212,464</td>
<td>34,743</td>
<td>56,687</td>
<td>26,000</td>
<td>6,800</td>
<td>139,067</td>
<td>43,879</td>
<td>93.19</td>
<td>11,900</td>
<td>25,800</td>
<td>182,050</td>
<td>163,143</td>
<td>51,602</td>
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<tr>
<td>Crockett</td>
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<td>47,214</td>
<td>7,721</td>
<td>6,480</td>
<td>56,687</td>
<td>56,687</td>
<td>26,000</td>
<td>6,800</td>
<td>139,067</td>
<td>43,879</td>
<td>93.19</td>
<td>11,900</td>
<td>25,800</td>
<td>182,050</td>
<td>163,143</td>
<td>51,602</td>
</tr>
<tr>
<td>TOTAL</td>
<td>202</td>
<td>54</td>
<td>1,387,650</td>
<td>329,752</td>
<td>48,413</td>
<td>406,275</td>
<td>205,200</td>
<td>12,900</td>
<td>53,291</td>
<td>42,491</td>
<td>35,700</td>
<td>43,241</td>
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<td>14,221</td>
<td>67,500</td>
<td>81,721</td>
<td>470,891</td>
<td>52,321</td>
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#### ALS First Response Cost Summary

<table>
<thead>
<tr>
<th>ALS Provider</th>
<th>New ALS Providers</th>
<th>New ALS Stations</th>
<th>Tuition on OT</th>
<th>Wages on OT</th>
<th>Equipment</th>
<th>Supply, Ppe, Radios</th>
<th>Total One-Time Expenses</th>
<th>Total Expenses per New Station</th>
<th>Total Expenses per New Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>East County</td>
<td>34</td>
<td>9</td>
<td>128,250</td>
<td>1,105,471</td>
<td>180,000</td>
<td>22,500</td>
<td>9,000</td>
<td>1,455,221</td>
<td>160,580</td>
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<tr>
<td>Pinole</td>
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<td>30,400</td>
<td>262,037</td>
<td>40,000</td>
<td>5,000</td>
<td>2,000</td>
<td>339,437</td>
<td>169,719</td>
</tr>
<tr>
<td>County Fire</td>
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<td>14</td>
<td>38,000</td>
<td>327,547</td>
<td>280,000</td>
<td>35,000</td>
<td>14,000</td>
<td>694,547</td>
<td>49,610</td>
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<td>3</td>
<td>1</td>
<td>11,286</td>
<td>97,281</td>
<td>20,000</td>
<td>2,500</td>
<td>10,000</td>
<td>132,075</td>
<td>44,467</td>
</tr>
<tr>
<td>Richmond</td>
<td>24</td>
<td>7</td>
<td>91,200</td>
<td>786,112</td>
<td>140,000</td>
<td>17,500</td>
<td>7,000</td>
<td>1,041,812</td>
<td>148,830</td>
</tr>
<tr>
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<td>22,800</td>
<td>196,528</td>
<td>20,000</td>
<td>2,500</td>
<td>10,000</td>
<td>242,828</td>
<td>40,471</td>
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<tr>
<td>TOTAL</td>
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<td>36</td>
<td>352,336</td>
<td>3,037,015</td>
<td>220,000</td>
<td>90,000</td>
<td>30,000</td>
<td>4,235,351</td>
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</table>

County Fire anticipates that 25 of the 35 needed ALS providers will be thru new hires
Appendix C

Fire Agency Data
## East Contra Costa County

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Number of Stations</td>
<td>9</td>
</tr>
<tr>
<td>Number of Fire Companies</td>
<td>11</td>
</tr>
<tr>
<td>Existing Paramedic Companies</td>
<td>0</td>
</tr>
<tr>
<td>Engine Staffing Configuration</td>
<td>2</td>
</tr>
<tr>
<td>Annual Medical Calls</td>
<td>4,200</td>
</tr>
<tr>
<td>Total Annual Calls</td>
<td></td>
</tr>
<tr>
<td>Average Work Week Hours</td>
<td>56</td>
</tr>
<tr>
<td>Benefit Percentage</td>
<td>40%</td>
</tr>
<tr>
<td>ALS Premium Percentage</td>
<td>10%</td>
</tr>
<tr>
<td>Engineer Monthly Base</td>
<td>$3,777</td>
</tr>
<tr>
<td>Dispatch</td>
<td>County Fire</td>
</tr>
<tr>
<td>Total Staff</td>
<td>48</td>
</tr>
<tr>
<td>Paramedics</td>
<td>0</td>
</tr>
<tr>
<td>Total Needed ALS Staff</td>
<td></td>
</tr>
<tr>
<td>Factor for Calculating ALS Staff</td>
<td>1.25</td>
</tr>
<tr>
<td>Calculated ALS Staff Required</td>
<td>33.75</td>
</tr>
<tr>
<td>Needed ALS Staff</td>
<td>34</td>
</tr>
<tr>
<td>Response Time Info</td>
<td></td>
</tr>
</tbody>
</table>

**Dispatch**

County Fire

**Union**

IAFF Local #1230

**Total Staff**

48 plus 35 paid on call + 9 f-t CDF

**Paramedics**

0

**Total Needed ALS Staff**

**Factor for Calculating ALS Staff**

1.25

**Calculated ALS Staff Required**

33.75

**Needed ALS Staff**

34

**Response Time Info**

---

Appendix C

Fire Agency Data
## Pinole

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Stations</td>
<td>2</td>
</tr>
<tr>
<td>Number of Fire Companies</td>
<td>2</td>
</tr>
<tr>
<td>Existing Paramedic Companies</td>
<td>0</td>
</tr>
<tr>
<td>Engine Staffing Configuration</td>
<td>3</td>
</tr>
<tr>
<td>Annual Medical Calls</td>
<td>1,400</td>
</tr>
<tr>
<td>Total Annual Calls</td>
<td>2300</td>
</tr>
<tr>
<td>Average Work Week Hours</td>
<td>56</td>
</tr>
<tr>
<td>Benefit Percentage</td>
<td>30%</td>
</tr>
<tr>
<td>ALS Premium Percentage</td>
<td>10%</td>
</tr>
<tr>
<td>Engineer Monthly Base</td>
<td>$4,650</td>
</tr>
</tbody>
</table>

**Dispatch**
- County Fire

**Union**
- IAFF Local #1230

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Staff</td>
<td>17</td>
</tr>
<tr>
<td>Paramedics</td>
<td>1</td>
</tr>
<tr>
<td>Total Needed ALS Staff</td>
<td></td>
</tr>
<tr>
<td>Factor for Calculating ALS Staff</td>
<td>1.50</td>
</tr>
<tr>
<td>Calculated ALS Staff Required</td>
<td>9</td>
</tr>
<tr>
<td>Needed ALS Staff</td>
<td>8</td>
</tr>
</tbody>
</table>

### Response Time Info

---

**Appendix C**

**Fire Agency Data**
## Contra Costa County

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>30</th>
<th>28 full time -- 2 paid on call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Fire Companies</td>
<td>32</td>
<td>30 full time -- 2 paid on call</td>
</tr>
<tr>
<td>Existing Paramedic Companies</td>
<td>16</td>
<td>15 cos. Plus one squad</td>
</tr>
<tr>
<td>Engine Staffing Configuration</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Annual Medical Calls</td>
<td>32,000</td>
<td></td>
</tr>
<tr>
<td>Total Annual Calls</td>
<td>40,000</td>
<td></td>
</tr>
<tr>
<td>Average Work Week Hours</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Benefit Percentage</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>ALS Premium Percentage</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Engineer Monthly Base</td>
<td>$6,603</td>
<td></td>
</tr>
</tbody>
</table>

### Dispatch
- County Fire

### Union
- IAFF Local # 1230

### Total Staff
- 330

### Paramedics
- 70

### Total Needed ALS Staff
- 102

### Factor for Calculating ALS Staff
- 1.17

### Calculated ALS Staff Required
- 105

### Needed ALS Staff
- 35

### Response Time Info
- Confident of 90% in 8 minutes
## El Cerrito

<table>
<thead>
<tr>
<th>Number of Stations</th>
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<tbody>
<tr>
<td>Number of Fire Companies</td>
<td>3</td>
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<tr>
<td>Existing Paramedic Companies</td>
<td>2</td>
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<td>Engine Staffing Configuration</td>
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<td>Annual Medical Calls</td>
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<td>Total Annual Calls</td>
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<tr>
<td>Average Work Week Hours</td>
<td>56</td>
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<tr>
<td>Benefit Percentage</td>
<td>47%</td>
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<tr>
<td>ALS Premium Percentage</td>
<td>10%</td>
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<tr>
<td>Engineer Monthly Base</td>
<td>$5,563</td>
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### Dispatch
- Richmond dispatch

### Union
- El Cerrito Professional FF Association

<table>
<thead>
<tr>
<th>Total Staff</th>
<th>37</th>
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<tbody>
<tr>
<td>Paramedics</td>
<td>9</td>
</tr>
<tr>
<td>Total Needed ALS Staff</td>
<td>12</td>
</tr>
</tbody>
</table>

### Factor for Calculating ALS Staff
- 1.33

### Calculated ALS Staff Required
- 11.97

### Needed ALS Staff
- 3

### Response Time Info
- Goal to arrive in 6 minutes -- Confident in 8 minutes 90%
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Number of Stations</td>
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<tr>
<td>Number of Fire Companies</td>
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<td>Engine Staffing Configuration</td>
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<td>Annual Medical Calls</td>
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<td>Average Work Week Hours</td>
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<td>Benefit Percentage</td>
<td>46%</td>
</tr>
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<td>ALS Premium Percentage</td>
<td>10%</td>
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<tr>
<td>Engineer Monthly Base</td>
<td>$5,630</td>
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<td>Dispatch</td>
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<tr>
<td>Total Staff</td>
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<td>Paramedics</td>
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<tr>
<td>Factor for Calculating ALS Staff</td>
<td>1.50</td>
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<tr>
<td>Needed ALS Staff</td>
<td>8</td>
</tr>
<tr>
<td>Response Time Info</td>
<td>avg approx 4 minutes</td>
</tr>
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Appendix C
Fire Agency Data
### Richmond

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
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<td>7</td>
</tr>
<tr>
<td>Number of Fire Companies</td>
<td>8</td>
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<tr>
<td>Existing Paramedic Companies</td>
<td></td>
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<tr>
<td>Engine Staffing Configuration</td>
<td>3</td>
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<tr>
<td>Annual Medical Calls</td>
<td>6,669</td>
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<td>Total Annual Calls</td>
<td>11,800</td>
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<tr>
<td>Average Work Week Hours</td>
<td>56</td>
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<td>Benefit Percentage</td>
<td>38%</td>
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<tr>
<td>ALS Premium Percentage</td>
<td>10%</td>
</tr>
<tr>
<td>Engineer Monthly Base</td>
<td>$6,065</td>
</tr>
<tr>
<td>Dispatch</td>
<td>Step 2 @ 5 yrs with 2.5% Incentive</td>
</tr>
<tr>
<td>Union</td>
<td>IAFF Local # 188</td>
</tr>
<tr>
<td>Total Staff</td>
<td>116</td>
</tr>
<tr>
<td>Paramedics</td>
<td>3</td>
</tr>
<tr>
<td>Total Needed ALS Staff</td>
<td>35</td>
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<tr>
<td>Factor for Calculating ALS Staff</td>
<td>1.29</td>
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<td>Calculated ALS Staff Required</td>
<td>27</td>
</tr>
<tr>
<td>Needed ALS Staff</td>
<td>24</td>
</tr>
<tr>
<td>Response Time Info</td>
<td>Avg 6.89 minutes</td>
</tr>
</tbody>
</table>

**IAFF Local # 188**
- 4 FF in Paramedic Training
- Plus HazMat Cross-staffed and 2 rescue units

**Richmond**
- 4 FF in Paramedic Training
- Avg 6.89 minutes
### Crockett

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>1</th>
<th>1 station being identified for ALS upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Fire Companies</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Existing Paramedic Companies</td>
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</tr>
<tr>
<td>Engine Staffing Configuration</td>
<td>Volunteer staffing</td>
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<tr>
<td>Annual Medical Calls</td>
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<td></td>
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<td>Total Annual Calls</td>
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<td>Average Work Week Hours</td>
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<td></td>
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<tr>
<td>Benefit Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALS Premium Percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineer Monthly Base</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Dispatch

<table>
<thead>
<tr>
<th>Union</th>
<th>County Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Staff</td>
<td></td>
</tr>
<tr>
<td>Paramedics</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Total Needed ALS Staff

<table>
<thead>
<tr>
<th>Factor for Calculating ALS Staff</th>
<th>2.00</th>
</tr>
</thead>
</table>

#### Calculated ALS Staff Required

| 6 | Staff one station/rescue unit |

#### Needed ALS Staff

| 6 |

#### Response Time Info

| ALS squad concept with FT Medic/EMT |

| On in clinical / 2 in training |

Appendix C

Fire Agency Data
Appendix D

Ambulance Service Areas
Contra Costa County Ambulance Response Zones (Current)
Contra Costa County Ambulance Response Zones (Proposed)
Appendix E

Comments
September 16, 2003

Art Lathrop  
EMS Administrator  
Contra Costa County EMS Agency  
1340 Arnold Drive, Suite 126  
Martinez, CA 94553

SUBJECT: COMMENTS ON DRAFT EMS SYSTEM CONSULTANT REPORT

Dear Mr. Lathrop,


Overall, the document is thorough, well researched and consistent with direction from the County Board of Supervisors relative to the expansion of first responder paramedic services. The report proposed a realistic approach through the concept of phasing in services in various zones. The Contra Costa County Fire District supports the direction and recommendations of the plan.

Like any plan, “the devil’s in the details.” Attached is a list of document specific comments for your review and consideration. Thank you for allowing us the opportunity to comment.

Respectfully,

Stephen J. Malero  
Chief, Fire Emergency Medical Services

cc: K. Richter, Fire Chief  
R. Grace, A/C Operations  
R. Keller, Fitch & Associates
Contra Costa County Fire Protection District
PUBLIC COMMENT

Consultant Report – Contra Costa County EMS System
DRAFT – September 2003

**Recommendation #1:** Award exclusivity for non-emergency and CCT services to the Emergency Ambulance Service Contractor

**Comment:** We strongly support this concept. It is a well-known fact that inter-facility and non-emergency transport work shores up the financial ability of a provider to deliver emergency 911 services. It has been more than a decade since a truly competitive bid process has taken place. The inclusion of non-emergency work, as part of an exclusive franchise agreement, will generate the necessary interest from potential bidders to deliver a true competitive bid process. Through competition, the best possible service contract be obtained, thus providing effective and efficient emergency transportation services to the citizens of Contra Costa County.

**Recommendation #2:** Relocate the EMS coordination functions provided by the Sheriff’s Department Dispatch to Contra Costa County Fire Dispatch or the ambulance contractor’s dispatch center without financial support.

**Comment:** We agree with the consultant’s assessment that this is a service that, while once necessary, has outlived its usefulness. Most of the services provided by the Sheriff’s Department Dispatch are redundant, no longer used, or rarely used. These services are currently provided, or can be easily absorbed, into the current Contra Costa County Fire Dispatch Center. Since the County Fire Dispatch Center and the current ambulance contractor’s dispatch center have linked CAD systems, it is both operationally and fiscally prudent to incorporate all EMS related dispatch functions and services into the Contra Costa County Fire Dispatch Center.

**Recommendation #3:** Require use of standardized priority dispatch procedures at all centers answering 9-1-1 calls for medical assistance.

**Comment:** We agree, conditionally. If mandating standardized priority dispatch systems is necessary, the costs to maintain those systems should be considered as part of the entire EMS funding picture. Currently, all three of the Fire/EMS public safety answering points use the Medical Priority System of call prioritization and are nationally accredited. Those agencies are Contra Costa County Regional Fire Dispatch Center, City of Richmond Dispatch Center and San Ramon Valley Dispatch Center.

The EMS Agency was visionary and instrumental in the start up and support of these programs. Unfortunately, while the start-up activities were fiscally supported, the
ongoing maintenance of these programs is not. In order to recognize the valuable contribution of these dispatch centers the EMS Agency should consider the use of Measure H funds to offset the ongoing costs of administration, quality improvement, training, certification and software upgrades necessary for these centers to maintain national accreditation status. Since the use of call prioritization is to be a requirement, then we strongly urge the $190,000 Measure H savings be distributed among those agencies required to maintain their call prioritization centers, on a per capita basis.

Separately, while the call prioritization process seems to be standard, the tiered responses by the various agencies are not consistent. It is recommended that a process be developed to achieve consistency regarding the proper level of response (at a minimum) that should be dispatched to each call type. This will allow agencies that desire to send additional resources, to do so.

**Recommendation #4:** Allow limited use of BLS ambulance to respond to emergency medical calls.

**Comment:** It is acceptable to consider this configuration in areas where first responder ALS coverage is fully implemented. If so, each transport by a BLS only ambulance should be reviewed for proper patient care as well as the impact on the ALS engine company that would occur if the fire-medic is continually accompanying patients during transport.

**Recommendation #5:** Require that minimum ambulance staffing include at least one paramedic.

**Comment:** We agree and have encouraged this crew configuration for several years. The savings that can be obtained from this model can be redistributed to “front load” the system with first responder paramedics. While the change may initially appear to be a service downgrade, it is actually the opposite. First, in most cases, one paramedic is needed to drive the ambulance to the hospital. Secondly, using this model, the system will benefit by having more paramedics in the system than it does now. The addition of paramedics on every engine company (ultimately) means that the system can have more on duty paramedics on more apparatus that it currently provides.

Immediately changing crew configuration in areas that are already densely served by first responder ALS engines should begin immediately. This system has been piloted and demonstrated to be successful in the San Ramon Valley.

Lastly, for clarity purposes, the recommendation should read: “**Require that minimum ALS ambulance staffing include at least one paramedic.**” Otherwise, this recommendation is contradictory to Recommendation #4.
**Recommendation #6:** Expand the role of the Medical Advisory Committee.

**Comment:** We support the expansion and inclusion of more physician involvement and oversight in the system. This will allow for better collaboration and cooperation between the medical community and all system players.

Additionally, in the report (p. 16 ¶ 4.), it states the number of paramedics and patient encounters will expand significantly. While the number of paramedics will expand, the number of patient encounters will remain constant. Perhaps it would be better to say: “…the number of paramedics and patient encounters will expand significantly.” This proposal won’t expand our patient encounters, merely the number of paramedics available in the system to respond to those encounters. It’s the increased number of practitioners that dictate the need for additional medical oversight.

**Recommendation #7:** Employ the equivalent of a full-time Medical Director to oversee the EMS System’s clinical performance.

**Comment:** We support this recommendation. While understanding the fiscal constraints of the county, the necessity for a full time medical director is evident as the number of paramedic practitioners continues to grow. Medical direction is key to ongoing quality improvement. Even the recent USA Today articles point toward the concept that successful EMS systems have strong physician involvement.

**Recommendation #8:** Establish operational zones for the phase in of engine-based ALS response.

**Comment:** We support this concept. Phasing in engine based ALS agencies is the best way to allow those agencies who have started the process to move forward, while allowing those who need more time to catch up as resources allow. It is noteworthy that in the identified zones, that the Crockett-Carquinez Fire District has been omitted. The consultant should identify his plan for this fire district.

**Recommendation #9:** Phase in funding for fire service engine-based ALS first response.

**Comment:** For obvious reasons, we support this concept. It is the framework around which this plan is built. There are some clarifications that should be addressed.

First, the report suggests a demonstrated response time performance of three consecutive months. We support this requirement. We suggest that this requirement be permitted to be demonstrated in arrears. In other words, if, at the time of contract, an agency can demonstrate three consecutive months of compliance, then funding should begin immediately.
Second, it is unclear if the formula for the redistribution of system savings will be deployed evenly throughout all zones, or if the savings achieved within a specified zone will be distributed among the first responder agency(s) within that zone. This point requires clarification and/or discussion.

**Recommendation #10:** Develop performance requirements for ALS first responder agencies.

**Comment:** The Fire District does not oppose performance requirements, so long as the requirements are fair, equitable and reasonable. If the Fire District is to be subject to financial penalties for performance failures, the same penalties should be applied to the ambulance contractor as well.

**Recommendation #11:** Provide initial matching funds to fire agencies initiating ALS first responder services.

**Comment:** We support the concept of providing matching funds to those agencies in need of investment capital. We would have an interest in how these funds would be identified, measured and distributed. It is appropriate to offer seed monies to those agencies that have not yet pursued first responder ALS services. However, some degree of fiscal reimbursement should be available to those entities that’ve incurred significant expenses in developing engine based ALS services in the County.

**Recommendation #12:** Establish an amount for compensating the ambulance contractor for transporting County Health Plan members.

**Comment:** We agree with this recommendation, assuming the fiscal liability is transferred from Measure H subsidies to the C.C.H.P. It creates accountability against over-utilization of the EMS system. Fee for service will create a better ambulance usage tracking system as well as assure compliance with the W & I Code 13000.

For clarity purposes, the report should clearly identify who will be responsible for paying the transport fees. The report is suggestive that C.C.H.P. would carry this fiscal burden in lieu of current ambulance subsidies, but does not clearly state that position. If it is the intent of the report to establish a per use fee to be paid from the existing Measure H funds, then we would encourage a flat fee. This is a key area that needs to be addressed.

**Recommendation #13:** Establish an amount for compensating the ambulance contractor for transporting mental health patients.

**Comment:** Our comments to this recommendation are reflected under Recommendation #12.
OTHER GENERAL COMMENTS:

Response Times (page 26, 31)

**Comment:** The report considers two possible ambulance response time requirements in areas where 1st responder ALS services are provided. We support the proposal for a 13 minute response time 90% of the time in those circumstances where a zone deployment of ALS engines can guarantee a paramedic response in 10 minutes 90% of the time.

We do not support a 15 minute response time for Code 3 calls.

The report, while strongly urging the use of call prioritization techniques, is noticeably silent of any response time requirements for Code 2 (non lights & siren) responses. We strongly urge and implore that a Code 2 response time requirement be added, not to exceed 20 minutes, 90% of the time in urban/suburban areas.

Through the use of standardized call prioritization, up to 20% of the call volume could fall under the Code 2 response configuration. The lack of any response time requirement unnecessarily commits first responder engine companies to the scene for extended and/or unknown periods of time. This has a negative impact to the overall system of coverage.

Interim Levels of Training (page 38)

**Comment:** The report suggests considering the use of EMT-II as a transitional training level between EMT-1 and EMT-Paramedic for those agencies unable to initially staff paramedics. We strongly oppose and discourage the use of this training technique. Not only will it end up being more costly in the long run, it is a level of training normally reserved for rural areas of the state. Since there is no current bridging program from EMT-II to EMT-P, much of the training hours would be redundant and excessive.

Measure H funds for the Medical Management of Hazardous Materials Incidents

**Comment:** Similar to the situation in Recommendation #2, Measure H funds approximately $150,000 per annum to the Health Services HazMat Division for the medical management of HazMat incidents. To date, there has been no specific accounting for how these funds are used toward this end. Since the HazMat response division does not provide any direct patient care or medical management, we believe these funds should be allocated to the EMS system as was originally intended by the voters. Given the increased training and equipment requirements of WMD preparation and supporting HazMat operations, the EMS System should reallocate these funds to the actual providers of medical care. Specifically, this funding should be included in the available revenue for either the start up or ongoing costs of the first responder paramedic program.
Procurement Activities (page 42)

Comment: The stated timeframes in the report appear to be compressed and unrealistic to a true competitive bid process. This timetable seems to favor the incumbent provider and would be prejudicial against outside vendors. The development of not only an RFP bid, but a system redesign requires a bid period of at least 90 days. The procurement timetable should be extended to allow for maximum public input.

Respectfully submitted:

Stephen J. Maiero
Chief, Fire Emergency Medical Services
Contra Costa County Fire Protection District
September 17, 2003

Mr. Art Lathrop
EMS Director
Contra Costa County EMS

RE: Response to the Contra Costa EMS System Report

Dear Mr. Lathrop:

In principal the San Ramon Valley Fire District agrees with most of the Fitch & Associates report, however there are a few points that have raised some concerns. Our first and major concern is that we have been told that this report does not address the areas served by the San Ramon Valley Fire Protection District (SRVFPD) and the Moraga-Orinda Fire Protection District (MOFPD). There appear to be sections of the report that speak only to the other areas of the County and others that include the two Districts either by reference or implied.

Conceptually, the District feels that having a Paramedic on every first responder engine is a good idea. However, the report, in our opinion should be clarified these are as follows:

Page 3, bullet point 3, Measure H

The Assessment rate differs in the SRVFPD from the rest of the County.

Page 7, Table 1

Most of this data does not apply to the SRVFPD or the MOFPD, however a small portion of the Sheriff’s Dispatch costs are used by these Districts.
Page 9, Economic Performance Enhancement

The two Fire Districts are named directly, the District feels that the casual reader could interpret that there would be revenues from the SRVFPD and the MOFPD used to enhance the first responder delivery in the rest of the County. If that assumption is correct, the SRVFPD is adamantly opposed to any revenue shift from the District.

Page 11, Coordination Responsibility (recommendation 2)

The District feels that a public agency not a private contractor should maintain that role. There are several reasons for this: There could be Contractor changes, which would be disruptive, public employees are prohibited from strike to resolve labor conflict, public agencies have a higher level or oversight, the Fire Communications Centers in this County have a fully redundant and staffed backup, on-line and functional 24x7.

The District strongly opposes any increase in the command and control of the SRVFPD resources over and above the level currently in place with the Sheriff’s Dispatch.

Page 12, Standardize Priority Dispatch (recommendation 3)

The District believes that this section should not dictate individual agency responses. The use of a standardized Medical Dispatch program, which is already in place, makes the system more efficient and easier to compare performance. A set of minimum response performance standards should be maintained, but setting maximum levels should be a local agency decision to meet individual requirements.

Page 14, BLS Ambulances (recommendation 4)

The concept of sending the correct level of Ambulance to the correct call is sound in concept, but potentially causes extreme delays in patient care and is difficult to staff and maintain. The current system is ALS centric, and the goal is to have ALS engine companies, further enhancing this. It is quite likely that the already stretched systems, would have long on scene times, waiting for a BLS ambulance to arrive.

Page 14, Minimum of One Paramedic (recommendation 5)

The appears to be in direct conflict with Recommendation 4, you cannot have this fulfilled and have a BLS Ambulance fleet operating as well?

Page 16, Medical Director (recommendation 7)

Currently there is only one Medical Director for all ALS providers in the County. If this proposal is accepted, will that create the need for the SRVFPD to obtain an additional Medical Director to fulfill that role?

Page 18, Engine-based funding (recommendation 9)

In the event that the County is able to obtain an additional funding source for ALS response, the District would expect that funds generated within the District boundaries be returned to source.
The District is interested in receiving compensation for these transports.

The District staff requests a meeting with you as soon as possible to further explain these positions and answer any questions you may have. Thank you for your attention in this matter.

Sincerely,

Craig Bowen
Fire Chief
September 19, 2003

Art Lathrop
Contra Costa Emergency Medical Services
1340 Arnold Drive, Suite 126
Martinez, CA 94553

RE: Comments on Draft Fitch Report

Dear Mr. Lathrop:

We have conducted a preliminary review of the Fitch report ("Contra Costa County EMS System," Fitch & Associates, September 2003) and are submitting the following comments for your review. We are continuing our review of the report and may submit additional comments in the near future.

I. Cost Savings from Proposed Crew Configuration Changes

Fitch & Associates estimates that changing the existing emergency ambulance crew configuration to one EMT and one paramedic will result in annual cost savings of an estimated $1.2 million (p. 30). We believe that these cost savings may be overstated and consequently request that they be more thoroughly documented. We would like to review the figures and calculations performed by Fitch in order to arrive at this estimate. Please forward the data to Fred Seavey in our Oakland office (tel: 510-869-2210).

A cost analysis of the proposed crew configuration must examine a variety of effects on ambulance operations, including the likelihood that changed crew configurations will cause higher turnover rates among paramedics. With a two-paramedic crew configuration, a variety of ambulance work tasks are shared among the two paramedics, including patient care, PCR and billing work. Under the proposed crew configuration, a single paramedic will be responsible for all of these tasks, including delivering all of the medical care in the back of the ambulance, which will likely increase the rate of back injuries among paramedics.

II. Cost Savings from Proposed Relaxation of Response Times

Similar to Section I of this letter, we believe that Fitch's estimated cost savings from its proposed relaxation of response times may be overstated. Consequently, we request copies of the calculations performed by Fitch.

III. Impact of Proposed Crew Configuration Change on Clinical Outcomes

We believe that further efforts must be made to analyze the clinical impact of Fitch's proposal to change ambulance crews from two paramedics to a one-and-one
configuration. Firsthand experience from our union's members indicates that clinical outcomes and patient safety are substantially improved with a two-paramedic crew configuration.

IV. Impact of Proposed Relaxation of Ambulance Response Times on Clinical Outcomes

Fitch proposes relaxing ambulance response times when ALS care is provided by first responders. We believe that increasing endless response times will have a detrimental impact on patients. One of the important roles of ambulance service is to provide patients with rapid transport to hospitals for definitive care. Delays of merely several minutes can have tremendous consequences for patients, especially those requiring trauma care. Contra Costa County residents deserve a careful examination of the impact of delaying ambulance response times on patient outcomes.

V. Viability of Proposed Operational Zones

Fitch's eighth recommendation calls for "establish[ing] operational zones for the phase-in of engine-based ALS response." Fitch proposes establishing five operational zones in which the County would relax ambulance response times as fire agencies begin to deliver ALS first-response services. Since each city would make autonomous decisions about whether to require its fire department to deliver engine-based ALS first-response services, it unclear how a zone-wide relaxation of ambulance response time would preserve appropriate first-response services in cities that choose not to establish engine-based ALS response. How can Fitch's recommendations be operationalized given the autonomy of cities to determine the structure of their fire departments. If the City of Richmond does not feel it needs ALS engines, will it be required to do establish them?

Please contact me with any questions. We look forward to receiving additional information to assist us in evaluating Fitch's proposed changes to our county's EMS system.

Sincerely,

Bill Bower
SEIU Local 250
Chief Shop Steward, Contra Costa County
EMS Division Vice President
September 19, 2003

Mr. Art Lathrop  
Emergency Medical Services  
EMS Director  
1340 Arnold Drive, Suite 126  
Martinez, California 94553

Mr. Rick Keller  
Fitch and Associates  
303 Marshall Road  
Platte City, Missouri 64079-0170

Dear Mr. Lathrop and Mr. Keller:

In reference to the Contra Costa County EMS System “Public Comment Draft” dated September 2003, I submit to you for comment the following responses:

• For the contractor to realize potential cost efficiencies, it would be necessary for the fire/medical dispatch centers to be consistent with the EMD coding and practices, to allow for an effective deployment plan by the contractor. (page 12)

• Code 2/non lights and sirens responses could effect total system deployment and expenditures. One recommendation is to take into account the countywide traffic roadway saturation/gridlock. This would be especially important in the eastern portion of the County. (page 39)

• A cost/benefit analysis of an "Exclusive Operating Area" would be needed to compare a system with the existing "grand fathered" providers held to the same contractual requirements as the county contractor, versus a true EOA served by one contractor only. (page 10)

Thank you for your consideration,

Leslie K. Mueller  
Operations Director
September 19, 2003

Art Lathrop, Director
Contra Costa Emergency Medical Services Agency
1340 Arnold Drive, Suite 126
Martinez, CA 94553

Re: Consultant’s Report on Expansion of First-Responder ALS Service

Dear Mr. Lathrop:

Representing the Alameda-Contra Costa Medical Association (ACCMA), I am pleased to have the opportunity to comment on the recently released report prepared by Fitch & Associates which analyzing the costs and makes recommendations for implementing a countywide ALS (paramedic) first-responder program in the Contra Costa Emergency Medical Services (EMS) system. My comments are as follows:

1. I am concerned about recommendation #5, as currently proposed, because it recommends a reduction in the staffing level of the ambulance transport units immediately, regardless of when first-responder units are enhanced to include ALS (paramedic) personnel. Reducing the transport unit staffing level to one paramedic and one emergency medical technician (EMT) will reduce the number of paramedics available on scene from two to one in those areas of the EMS system where the first-responder agencies are not yet providing ALS (paramedic) service. Despite the lack of clinical literature on this subject, this represents a diminution in the skill level of personnel available to treat a seriously injured or ill patient at the scene, and it is inconsistent with staffing levels in other Bay Area EMS systems. I recommend that the recommended change in the staffing level of ambulance transport units be implemented on a zone by zone basis in the EMS system, and that it be contingent on the first-responder agency providing ALS (paramedic) service in each respective zone.

2. I applaud recommendations #6 and #7, which call for expanded medical oversight of the EMS system. It is essential to expand and better define the EMS Medical Advisory Committee’s role in reviewing quality of care and developing recommendations to enhance the quality of care provided in the EMS system. Expanding the EMS Medical Director position to a full-time position also gives the Medical Director much more time to fulfill the responsibilities of overseeing the quality of care provided by each contracting agency within the EMS system.

SEP 23 2003
3. I also support recommendation #10, which calls for development of performance requirements for ALS first responder agencies. As with all other components of the EMS system, ALS first responder agencies should be accountable to the EMS agency for the quality of services provided and obligated to adhere EMS policies and procedures promulgated to improve the quality and efficiency of the EMS system.

Thank you for your consideration of these comments on this report.

Sincerely,

Catherine Hurt, MD
Contra Costa Emergency Medical Care Committee Alternate Member,
Representing the Alameda-Contra Costa Medical Association

Cc: Paul Freitas, MD, EMCC Member, Representing the Alameda-Contra Costa Medical Association
Art Lathrop  
Emergency Medical Services Director  
1340 Arnold Drive, Suite 126  
Martinez, CA 94553  

Re: Public Comments Contra Costa County EMS System Report.

Dear Director Lathrop,

Thank you for allowing me the opportunity to comment on the Fitch & Associates Contra Costa County EMS System report. I believe that report represents the first step in a major change to the delivery of emergency medical services in Contra Costa County. I support your goal of high quality service in the most efficient and cost effective manor. Upon review of the draft report, I agree with most of the information presented. However, there are several sections that I believe need clarification or correction prior to being presented to the Board of Supervisors. I appreciate the opportunity to share my thoughts with you and will reference my comments by page, title and paragraph. I will attempt to keep my comments brief, which may require follow up by the consultant.

Cover page: Spell out EMS. Acronyms can be very confusing for readers unfamiliar with subject being presented. Provide a glossary of emergency medical service terms at the very beginning of the report if the choice is made to use acronyms.

Page 1, Introduction: I suggest that the last paragraph of the introduction be the lead in paragraph: It clearly states the goal of the report. Page 2, Change the last sentence to read from the resources.

Page 1, Introduction: I recommend that wording be inserted clarifying sections of the report excluding San Ramon and Moraga/Orinda Fire Protection Districts relative to this report.

Page 3, EMS System Revenue: Better define the benefit assessments (Measure H) relative to San Ramon Valley and other county areas.

Page 7, EMS System Expenditures and Table 1 Sheriff Dispatch: Clarify San Ramon Valley Fires (small) costs. Should the costs for the fire district’s pre-arrival program be included in this table?

Page 9, EMS System Modification to Enhance Economic Performance: This is confusing to me and I believe I have a fair understanding of the system. The information by the consultant leading up to the recommendation is very confusing, which results in a confusing recommendation. Is the consultant suggesting revenue sharing? Does this
apply to San Ramon, Moraga/Orinda? This is very confusing and I would not support this recommendation in its current form. I suggest a rewrite of this section.

Page 11, Transfer EMS Dispatch Coordination Responsibilities from Sheriff Department. I agree with the consultant’s findings. I believe that the functions now performed by the Sheriff Department should be taken over by Contra Costa County Fire for the following reasons: Protection from labor conflict, the center remains within the county, the system has built in redundancies.

Page 12, Standardize Priority Dispatch Procedures Countywide: I believe that clarification of this section is necessary for the following reasons. I believe fire agencies hold the right to set their own response procedures base upon the needs, desires and other considerations of their communities.

Page 13, Allow use of basic life support ambulances to respond to EMS calls on a limited basis: This section needs to be reviewed and clarified. The information presented and the recommendation seems to contradict each other regarding ALS and the use of BLS ambulances and one medic as opposed to two medics. I support the single medic ambulance concept. However, before EMS moves into a mixed ALS/BLS system as recommended more though needs to occur. We need to think this out and not go backwards and let economics lead us in to bad decisions.

Page 21 and 22, Unresolved Issues, Compensate Ambulance Contractor for County Health Plan ambulance transports and Compensate Ambulance Contractor for mental health ambulance transports: I support compensating the contractors for these services. In the case of mental health transports this issue needs to be addressed, reviewed and a more efficient and effective approach need to be established. This is an urgent matter and it needs immediate attention.

Page 33, Conclusion, Countywide Paramedic Engine Company Analysis: I would suggest that the wording of the conclusion be more direct. I think the report should say that the county subsidy to the contractor would be eliminated and used to establish the ALS engine company program. It should also be made clear that full funding for the ALS engine companies should not be expected by the fire agencies and that the decision to implement the program not be made on false assumptions.

In closing, I would like to make this final observation regarding this report. I support the concept of improving our present system. The report is well done, however, there are areas in need of review, clarification and possible change. The report has to be to the point, have a clear achievable goal and understandable to the reader. Thanks again for allowing me to comment.

Respectfully,

Rick Probert, Past President
Emergency Medical Care Committee
Email from Emergency Medical Care Committee Consumer Representative:

These proposals sounds too good to be true but I am optimistic. I like it because of the cost savings, enhancements, and the standardization of the whole operation. However rosy it sounds I have a few questions in mind on just a number of issues:

On Recommendation # 2

Would it not overburden the CCC Fire Dispatch and/or Ambulance Dispatch Centers when the Sheriff's Dept. Dispatch center is relocated to them?

On Recommendation # 6

I definitely agree about the expanded of the Medical Advisory Committee. Hopefully, all participating hospitals are represented in the committee so they could monitor the activities and recommend enhancement if necessary.

On Recommendation # 10

I like it because it is binding. Is the EMS going to have a follow up with all the agencies involved once a year to review (what went right or wrong)their performance?

On Recommendation # 11

I am sure the EMS will have a control in placed for this funding. In the zoning, are the agencies allowed to encroach into other zone, where the emergency exists, if necessary?

Do we have a timetable as to when these proposals would be 100% implemented?

Email from Emergency Medical Care Committee Emergency Physician Representative:

I am very concerned that in East County and in Richmond there may be a prolonged period of time before the area can develop an ALS first response model and that, in the interim, the area would be served by a downgraded crew compared to the rest of the county. Though I am not as familiar with the issues in Richmond, I can attest that in East County, due to the prolonged response times and time to hospital, the 2-medic system can be a lifesaver.

As I may not be able to attend the meeting, I would ask that the EMCC consider amending recommendation #5 to the Board such that the county would maintain current crew configuration in each zone until the first responder ALS program has been in place and the performance requirements met for that zone for a period of 3 consecutive months. It would seem at this time that there would no longer be a need for 2 paramedics on the ambulance responding.

I hope that these comments can be brought up in the meeting in my absence.
Email from Hospital Emergency Department Supervisor:

The proposal is to provide ambulance crews consisting of one EMT and one Paramedic. This mix of personnel would also be provided on the first responder (fire department) rig. The benefit is a cost reduction for the ambulance company and/or fire department.

My concerns revolve around competency of the ambulance crew, and ability to communicate in critical situations, and patient care

1. With one paramedic arriving from Fire and one arriving from AMR there may be issues with communication. The well-oiled team, communication and trust of the duel paramedic team is imperative for quick, quality patient care, especially during critical situations

2. There are many new paramedics in the EMS system that need mentoring from more experienced paramedics. Learning does not stop once one is oriented and starts a new position as a paramedic. Continuous, ongoing mentoring and training (with real patients) will not be available for new paramedics in a sole paramedic ambulance system.

3. Patient assessment information and care communication will occur with the first responder paramedic to the ambulance paramedic, and then from the ambulance paramedic to the receiving hospital. Report/communication of the patient should be done by the paramedic that is actively caring for the patient, not an EMT nor a paramedic that has not assessed/cared for the patient. The playing of “telephone" often leads to information that is fragmented, and erroneous.

4. This system should not be implemented until there is a guarantee of two paramedics arriving on all 911 calls for medical assistance. Each zone needs to have adequate coverage for paramedic to prevent only one (and potentially inexperienced) paramedic on the scene.

Email from Emergency Medical Care Consumer Representative:

The only point I would like to see more clearly identified is related to estimated costs and the resulting expected deficit by the end of the project, amounting to $ 600,000 + ???. My primary question during the EMCC meeting was simply that the "expenses per new provider" identified in appendix B are very relative to successfully implementing this concept in the most expedient AND cost efficient manner. If it costs 50% less to start up and keep a new provider going in Area D vs. Area B, then the losses estimated for the project overall will be significantly less burdensome for the County to fund the each area in priority by starting with the least expensive first, most expensive last.

It would appear to me that by doing so the following benefits may arise:

* The initial concerns that may arise when the County Supervisors, the public, and others first see the report and the funding deficit for the total program would be mitigated by presenting a tiered approach of what the bottom line is to fund each individual area. I would be concerned that the entire program could be dismissed out of a very reasoned concerned for the County's budget.
* The longer the County can wait to implement the program in the higher start-up cost areas could improve the speed in which the program is completely implemented. This is possible simply because the County is then holding on to its own money longer, earning interest etc., while the first 1, 2 or 3 areas are implemented at likely no cost, or limited cost, to the County.

* It could be feasible that at least for Zone D which has estimated costs of $18,521 per new provider, that a positive cash flow could occur thereby offsetting expected losses for the next area, etc., etc. Reading the report as it currently stands, we cannot determine that this possibility even exists!! I believe leaving this information completely out of the report could result in readers not realizing this possibility. In addition, if what I am conveying is accurate either completely or in part, then I believe this data should be clearly demonstrated and discussed in the report PRIOR to ever getting to the total funding deficit figure.

Other brief notes;

* I have some reservations about the call prioritization system, especially if I am an ambulance contractor bidding for business in CCC. If this system allows for 911 calls to be prioritized into BLS and ALS dispatches, and the BLS calls begin to be given directly to the Ambulance contractor w/o fire response, I would think the contractor would end up with a disproportionate number of their runs resulting in no transport / no invoicing / or transports that do not pay? This would be due to possible BLS patients not desiring transport or inability to pay, vs. (only my guess) ALS calls probably have a high percentage resulting in transport, are covered by insurance (either health policies or Liability policies from accidents). The net effect being the contractor taking a higher share of calls that do not result in dollars?

* I did not know about the present practice of the County's employees, and thus the County itself, are not responsible for any payment to the existing ambulance contractor, if I understood this point correctly. Although it makes sense to have this contractual arrangement, I would hope that the possibility of the county having to pay for its own transports would not result in some obstacle for this program. If I am a County Supervisor, I would want to know a very good estimate as to what these costs may be since they may have to come out of the County budget in some fashion.

Finally, it may be helpful to put the name/purpose of this project on the cover of the report. All of my comments above are made while knowing I do not have all the information to be certain that my thoughts are valid. If you have any questions, let me know.
Appendix F

Consultant Clarification
Consultant Clarification and Response to Comments to Draft Report

This Appendix contains the response to public comments to the draft report and provides clarification to portions of the report. The public comments can be found in Appendix E.

If a particular recommendation is not addressed here, no changes or clarifications were made.

We would like to commend the response and comments provided to the report. No significant changes were made except for Recommendation #13 dealing with mental health transports where we suggested that reimbursement for transport should be the responsibility of the patient and alternative transportation arrangement should be explored for those patients whose medical condition does not require an ambulance.

Recommendation #2: Relocate the EMS coordination functions provided by the Sheriff’s Department Dispatch to Contra Costa County Fire Dispatch or the ambulance contractor’s dispatch center without financial support.

One commenter was concerned that shifting the EMS related workload from the Sheriff’s Communication Center to Contra Costa County Fire Dispatch or the Ambulance Contractor dispatch center would overburden the centers. The Sheriff dispatch center’s current EMS activities are limited and many are already replicated in the county and ambulance centers.

Recommendation #3: Require use of standardized priority dispatch procedures at all centers answering 9-1-1 calls for medical assistance.

Standardized coding of call priority is required to achieve the potential system savings from modifying response time requirements. This process will allow the County to specify the minimum response requirement for first responders and the ambulance service. For example, a Priority 1 call would at a minimum, receive a response for the closest first responder agency and an ALS ambulance within a stringent response time requirement. Lower Priority calls such as Priority 3 calls may not require the first response agency to send an engine. Even so, each fire agency can develop policies to determine whether they will respond to these lower priority medical events that do not require a first response.

We agree that the $190,000 currently paid for Sheriff’s dispatch services could be reallocated to support the three EMS dispatch centers’ efforts to standardize priority dispatch, quality assurance, and program upgrades.
Recommendation #4: Allow limited use of BLS ambulances to respond to emergency medical calls.

Use of BLS ambulances to respond to emergency medical calls will require comprehensive monitoring and quality assurance activities to ensure that the system is appropriately identifying patients requiring only BLS services.

Recommendation #5: Require that minimum ALS ambulance staffing include at least one paramedic.

This is the Report’s recommendation that generated the largest number of responses from system stakeholders. Generally, concerns were based on the phase-in of the one paramedic ALS ambulance. Many believed that the phase-in should occur when paramedic ALS first response was in place.

We stand by our recommendation to allow single paramedic ambulance staffing for the following reasons:

1. This is the most common staffing configuration throughout North America and reflects an appropriate standard of care.
2. The ability of the System to provide funds for new engine-based paramedic first response programs is dependent on achieving savings within the system. Not allowing single paramedic ambulance staffing will significantly reduce fire service funding potential.
3. We are aware of no research that supports one staffing model over the other for benefiting patient outcome.
4. The most significant time spent with the patient is during transport when one of the paramedics is currently driving.
5. The only system savings opportunities for Zones A and E result from modifying the crew configuration.

Another component that will be included in the Emergency Ambulance Service RFP will be a requirement that the Contractor implement adequate orientation, training, and apprenticeship programs to ensure that new paramedics are teamed with experienced paramedics until they have demonstrated their ability to perform in the single paramedic role. Provisions would also prevent new EMTs from being paired with newer paramedics.

The savings were based on 60% of the workforce being paramedics. This allows the staffing of ambulances with two paramedics during orientation for significant periods of time.
Recommendation #6: Expand and define the role of the Medical Advisory Committee.

The intent of this recommendation is not to reduce the involvement of the Medical Advisory Committee, but to strengthen the physician involvement in the oversight and establishing medical standards of care. A separate physician’s committee can be established or this can be accomplished by creating a physician subcommittee of the MAC.

Recommendation #10: Develop performance requirements for ALS first responder agencies.

The performance requirements for the ALS first responder agencies would be consistent with the requirements for emergency ambulance services. Regular reporting and monitoring would be required (e.g. monthly and quarterly reports).

Recommendation #11: Provide initial matching funds to fire agencies initiating ALS first responder services.

The EMS agency would develop the process and control the funding. The amount of funds available would be dependent on existing reserves, the agreed upon phase-in of savings from changing the crew configuration and the subsidy requirements resulting from the upcoming ambulance service procurement.

Recommendation #13: Explore alternative methods to address the mental health transports and explore partial compensation sources for these transports.

This is the only recommendation that we substantially changed in the report based on input and comments. We agree that the first source of funding should be the patients transported and their insurance companies. Other opportunities should be explored for uncompensated care and alternative, less costly transportation for those mental health patients that do not require medical care during transport.

Miscellaneous Comments and Consultant Responses

Savings Estimates
One commenter indicated concerns that the potential savings for ambulance staffing and increased response times were overstated. Proprietary information was provided by the ambulance contractor. The Consultant used this information to calculate potential savings. The amounts are consistent with savings achieved in other systems making similar changes. We are comfortable that these amounts are realistic and achievable.
Ambulance Contractor Service Area
It is important to recognize that the system changes and potential reallocation of funds from the ambulance contractor to the ALS first response providers is applicable to the part of the County served by the private ambulance contractor. The areas served by San Ramon Valley Fire Protection District and the Moraga Orinda Fire Department will not be significantly affected and there would be no transfer of funds from these areas to support activities in other parts of the County.

Clarification of Allocation of Funds
The proposed system changes and the reallocation of funds to the first responders are cost neutral with regard to County EMS funds. No additional funds are anticipated. The recommendations simply decrease the subsidy requirements for the ambulance contractor and this enables the EMS system to partially fund the costs of expanding the fire service ALS first response programs. The redirected funds will not fully cover the costs of starting ALS first response programs and will not pay totally the ongoing expenses. The goal is to partially offset the expenses of the fire services and support the existing and expanding engine-based ALS first response activities.

The total available funds will not be determined until the completion of the Emergency Ambulance Service Procurement. At that time, savings from changes to the crew configuration could be escrowed for ALS first response activities. Some of these funds could be ear-marked for starting new ALS first response programs and distributed through an application process. The remainder should be reserved to support the ongoing costs of providing ALS first response. As each zone meets the ALS first response performance requirements, additional funds can be reduced from the contractor’s subsidy. These would be used to offset some of the recurring costs of the fire agencies. Each fire agency should receive a specified amount for each station that is staffed 24/7 with paramedic first responders.