

*First Responder Fee  
Feasibility Study  
for  
Suisun City Fire Department*



by  
AP Triton, LLC

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## **Executive Summary**

The City of Suisun Fire Department (SCFD), as an all-risk public safety agency, has been providing First Responder Emergency Medical Services at the Advanced Life Support (ALS) level since July 2020. The Solano County Emergency Medical Services Agency granted SCFD the necessary accreditation to provide that level of service. Prior to achieving the response level, Suisun City was the only municipality in Solano County not providing ALS care for its residents. The Department accomplished this through the development of First Responder Engine and Truck Companies and the certification of its personnel to the advanced life support/paramedic level.

SCFD medical responses, constituting approximate 75% of the Department's workload, account for a significant portion of the operating budget of the agency. The development of a cost recovery program, consistent with California law, will allow the Department to better respond to all emergencies; however, the implementation of these fees will be impacted by numerous outside factors, including increased call volume, federal insurance programs, commercial medical insurance companies/policies, operational costs, medical control costs, etc.

The SCFD fire station, centrally located in the City, provides a strategically-located standing force. This standing force of First Responders at the ALS level has proven to be the cornerstone of Pre-Hospital Emergency Medical Services (PHEMS) throughout the country and will prove its value to the Suisun City community in the future. Providing these PHEMS First Responders comes with a cost, which is referred to as the "Cost of Readiness."

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Because the cost of readiness for PHEMS is the most expensive aspect of the service delivery model and is not generally covered by the tax base as an added value, the fiscal concerns are to ensure that the Department is at the appropriate levels of revenue reimbursements for all of the First Responder EMS services provided.

Governmental entities are allowed, and in the case of special districts required, to institute cost recovery programs to ensure the cost of providing services is being met (Fire District Law of 1987) and are allowed under Federal and State regulations to include those costs associated with providing EMS services. Those associated costs include the direct and indirect costs of services. Direct costs are those costs that are required to provide the services. These include the first responders' salaries and benefits, dispatching costs, apparatus, and supplies used to provide these services. Indirect costs are those costs associated with supporting those services such as supervision, maintenance, finance, human resources, training, etc. Many of these indirect costs are internal services which are shared services between divisions within the fire department or the local government structure. In either circumstance, the costs associated for providing these services must be calculated in a manner that justifies the charges. These charges are intended to create a cost recovery system for supporting the First Responder services provided. The goal is to attempt to recover the costs of providing these services through accepted practices at both the federal and state levels.

As SCFD continues to develop their First Responder Fees for Services, it is important to consider not only the positive financial reimbursements that can be expected but how that affects their ability to provide enhancements to the overall service delivery system. The Department is acutely aware of the political considerations that can develop from attempting to recover the full cost recovery of these EMS services, as that can be a significant billed amount. In many cases, there may be no practical means to achieve total cost recovery of any EMS system.

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This is mainly due to federal and state regulations that impact all patient care billing practices.

SCFD must continue to balance the patient care and operational demands of the system with the limited fiscal resources available within the First Responder System. The benefits of developing a comprehensive First Responder Fee System are numerous, with the most obvious being the recovery of all or some of the costs of providing services. The cost recovery of available revenue previously expended is historically limited within most EMS systems throughout the nation, which also applies to SCFD; however, any amount of recovery will reduce the general fund cost-shifting/subsidy for First Responder services.

Using the data supplied by the Suisun City Fire Department, AP Triton estimates a potential cost recovery of \$97,318 is available to the City.

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## **Suisun City Fire Department and the City of Suisun Community**

The Suisun City Fire Department (SCFD) is a combination agency, staffed with full-time and volunteer members providing service to an area of approximately 4.5 square miles. In total, the Department provides fire protection and advanced life support (ALS) first responder medical services for over 29,000 citizens. The City's single fire station line positions are staffed 24 hours a day, seven days a week, by six full-time career firefighters working two per each shift and supported by 28 well-trained volunteer members. ALS ambulance service is provided by contract from the Solano Emergency Medical Services Cooperative through Medic Ambulance Company. Added to this, SCFD has automatic and mutual aid agreements with neighboring fire department organizations to further strengthen the emergency services available to its citizens.

SCFD is an all-hazards/all-risk fire department providing emergency services that include Fire Suppression, Advanced Life Support First Responder Medical Services, Hazardous Materials Mitigation, Fire Prevention, Technical Rescue, Water Rescue, Training, Public Education, and Arson Investigation.

SCFD uses a staffing model of two to three persons per engine company, which is the primary first responder company responding to medical emergencies. The full-time ranks for staffing field units are Captain and Engineer with the Firefighter/Paramedic positions being filled by volunteers (with limited Firefighter/BLS positions), all of which play significant roles in providing EMS to the community.

SCFD does not provide ambulance transport service but EMS operations are managed by an independent Medical Director and a Captain from the Operations Division. The Fire Department Operations Division is staffed with full-time personnel including one Fire Chief, two Division Chiefs, three Captains, three Fire Engineers, and 28 volunteer positions of various

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ranks, and one administrative assistant as support staff. The Department's Administration and Operations Divisions' combined budgets for FY 20/21 are adopted at \$2,855,760. The Department is dispatched to all emergencies through the Suisun City Dispatch Center.

Based upon the 2019 run data, the Department received 2,582 call for services with 1,943 being requests for medical emergencies. EMS incidents make up approximately 75% of the Department's call volume. Years of experience in evaluating first responder systems provides AP Triton with the knowledge that 23.6 minutes is an average time a fire unit is routinely committed to a medical call. This committed timeline is defined as the length of time from when the response unit is notified by the dispatcher until the unit has returned to service and is again ready to respond to the next incident. The SCFD deployment model dispatches one engine company to EMS responses. This indicates a total of 8,760 unit hours (1 unit x 24 hours a day x 365 days a year = 8,760 unit hours). Based on 1,943 medical responses, and an average time commitment of 23.6 minutes per medical response, the average Unit Hour Utilization (UHU) rate is calculated at .0872 for a 24-hour period.

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## Community Demographics

Based upon census data<sup>1</sup>, the City's population demographics are as follows:

**Figure 1: City of Suisun Demographics**

Description	Amount
Population estimates, July 1, 2019	29,663
Estimated housing units, July 1, 2019	3,000
Persons per household	3.15
Median household income	\$ 83,320
Median household value	\$ 357,500
Population with employee health insurance	53.0%
Population with Medicare	5.7%
Population with Medicaid/Medi-Cal	17.9%
Population on non-group plans	13.7%
Population on military or VA plans	4.4 %

<sup>1</sup> [Httpd://www.census.gov/quickfacts/fact/table/suisuncitycalifornia/PST045219](http://www.census.gov/quickfacts/fact/table/suisuncitycalifornia/PST045219)

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## **Demographics of the Healthcare Payer Mix**

Sustainability of the healthcare system is dependent upon the payer mix within any given geographic location. Understanding how the payer mix impacts reimbursements will allow us to determine the value of the system. Once the payer demographics are determined, an estimate of reimbursement can be made. There are four basic cost centers for reimbursement: Medicare, Medi-Cal, Private Pay (uninsured), and commercial insurance. Depending upon the demographic, each cost center will have a different percentage of participants. The number of system users from each cost center will determine the total reimbursement that can be realized. However, the percentage of each cost center does not determine the multiplier for your system. In other words, if the four cost centers are equal (25% each) that does not suggest that 25% of the calls for PHEMS will come from each category. As we age, our health begins to deteriorate with time and as a result, this smaller percentage of the general population tends to have a higher percentage of use within the system.

With respect to First Responder Fees, there are realistically only two categories that provide opportunity for reimbursement for transporting providers as the first responder fee is incorporated into the transport bill.

**Private pay:** This category of the payer mix is comprised of those who do not meet the threshold needed for receiving Medi-Cal and who do not have commercial insurance. Because this group includes a wide range of the population, it will include those who have very limited income as well as those who have well above average income levels. In the past, the most common demographic was those who were either employed by smaller companies who did not provide insurance to their workers or those who were self-employed. As a result, this payer mix comprises a combination of those who can afford to pay the full amount of the ambulance transportation costs and first responder



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fees as well as those who cannot afford to pay any part of the fee. Within those parameters are those who can afford to make payments as well as agreements to take a settlement for a partial amount. Because this group comprises such economic diversity as a combined group it is typical to see an aggregate reimbursement rate equal to 1 to 2% of full collection for this payer mix. However, with the implementation of the ACA and Covered California, this demographic is continuing to transition to the insured category. How this will impact the overall collection rate is still unknown as many of the plans through Covered California have higher deductibles.

**Insured:** This category of payer mix is comprised of those who have medical insurance, either through employment, private purchase, or other means. Most medical insurances cover the cost associated with PHEMS. For some insurance providers there is a deductible or co-pay, however most insurance services waive this when the patient received services that originated through the 9-1-1 system. Private insurance typically does not dispute the fees charged for ambulance transportation and first response. For this reason, reimbursement is nearly 100%.

**Medi-Cal/Medicare:** Currently neither Medi-Cal nor Medicare will pay the cost for first responder services as they are not a covered benefit. Medicare is actively involved in the implementation of the new Emergency Triage, Treatment, and Transport (alternative destinations) program (ET3). ET3 is a pilot program that is attempting to look at opportunities where patients who would normally be transported to an emergency department can be dealt with in a manner other than transport. While there are many places where this is already being done, the difference is that Centers for Medicare and Medicaid Services (CMS) is now looking at reimbursement to those providers for not transporting. The current emergency transport system nationwide recovers cost from the transport. Thus, any non-transport results in no

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payment and is considered uncompensated care. Therefore, the system has created an incentive to transport even though there may not be a critical need. At this time, there are minimal opportunities in California to participate and eligibility is by application with a 25% trial study in each state. This is a very exciting opportunity for many first responder agencies.

As more and more people who previously were uninsured are enrolled into the Covered California program, the percentage of people who will secure some form of health care coverage will increase. This should reduce the number of uninsured “private pay” households but, at the same time, could increase the minimum deductibles that go along with these types of insurance policies through the statewide exchange.

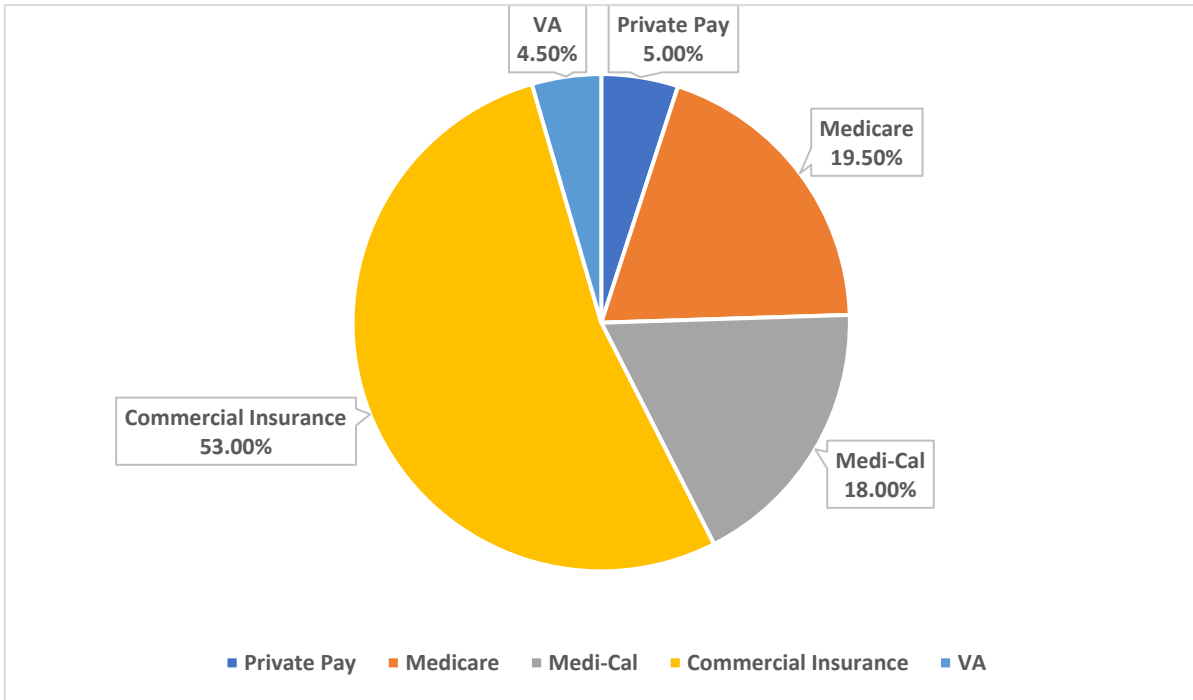
Medic Ambulance, the EMS transport contractor for the City of Suisun, declined to provide the payer mix, sighting it was proprietary data. An analysis of the demographics of the population of Suisun City allows Triton to estimate the payer mix as follows:

**Figure 2: Estimate of Suisun City Emergency Medical Service Payer Mix**

<b>Source</b>	<b>Percentage</b>
Private Pay	5.0%
Commercial Insurance	53.0%
Medi-Cal	18.0%
Medicare	19.5%
Other	<u>4.5%</u>
<b>Total</b>	<b>100.0%</b>

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Figure 3: Graphical Presentation of EMS Payer Mix Estimate



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## **Factors that Influence Collection and Reimbursement**

### **Billing Policy**

Creating and maintaining an up-to-date billing policy is one of the primary steps a provider needs to take to ensure the Department will receive the most monetary value from the system. When a service is provided there is an assumption there will be a charge for that service. There are numerous factors that will determine what is included in the patient billing policy. The more aggressive the billing policy, the more potential there is to collect. There will also be a set number of calls for service during a given time period, known as call volume. There will be fluctuations in the call volume, but significant or seasonal changes in call volume are predictable based on historical information. Therefore, reimbursement for some services based upon the number of calls is relatively established and forecastable. It should be noted, however, that an increase in call volume does not absolutely reflect a direct correlation to an increase in revenue. The areas of the billing policy which will determine revenue are collection policy, documentation accuracy, billing provider's level of effort, and understanding the payer mix.

SCFD has not yet adopted policies for multiple levels of billing. The creation of these policies is to create latitude to negotiate and resolve outstanding claims to close the prior fiscal year's accounts.

### **Documentation**

Documentation provided by both the first responder companies and ambulance personnel on the patient care report (PCR) all have very significant roles in the collection rate achieved by the Department. These documented actions will capture the patient care services provided by Department personnel. Proper documentation is crucial to achieve the appropriate reimbursement rates from all the insurance providers. The Department anticipates Medic Ambulance, the

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transport service provider, will work closely with the billing company to be as efficient and responsive as possible in this very complex area. There has been, and will continue to be, an overly cumbersome amount of additional “justification” from EMS providers to document the patient care that was delivered and to have that reflected in the corresponding billing for all the patient care services.

The First Responder Fee (FRF) billing policies and procedures, such as FRF fee amounts, time allotment intervals of billing, etc., are established by the Department. When it is related to time allotment of billing, there must be “hard times” documented on the electronic patient care report (ePCR). SCFD will use the communications center and the “hot buttons” in the ePCR application to timestamp their billing times. As a result, these times are automatically populated into the ePCR.

### **Comparative Evaluation of Fire-based EMS Transportation Systems**

SCFD is an all-risk department, meaning that the operational personnel have multiple disciplines of duties/tasks during emergency incidents. These incidents may include, but are not limited to, EMS, Fire Suppression, Technical Rescue, Hazardous Materials, and Water Rescue. With these duties/tasks comes the need for training, education, physical training, equipment readiness, and target hazard awareness training. Also included are the functions of fire prevention, public education, station and apparatus maintenance, etc. The SCFD’s Operations Division monitors, evaluates, and uses staffing models to maintain the Department’s UHU.

Currently, the Department’s overall UHU is .0872 (based on a 24-hour shift), which allows for quality first responder patient care and allows the fire units to be available for many of the other disciplines that need to be addressed by personnel assigned to fire units. As an average, there are call volume peaks and other demands on the Department, which the current system has the available

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capacity to handle. These operational UHU hours themselves only show the units' activities while assigned to "incidents/dispatch," meaning that there are other fire station duties/tasks needing to be addressed within the shift work period. When those items are placed into the workload of each unit, the UHU rates will increase. The optimal operational range as described by the International Association of Fire Fighters (IAFF) for most fire based First Responder Systems is .25 to .35 UHU.

SCFD works very closely with the current ambulance billing provider, Medic Ambulance. The Department's proposed FRF schedule (Attachment A) has listed specific billable service items that are not included within this document. This document is looking at the base fees structure elements of the FRF. There will be items based upon Medicare and some insurance plans that have reimbursement items specific to their plans that need to continue to be included but are not covered in this study. An example of some that are covered by one or the other but not both is gross decontamination cleanup costs and additional personnel.

SCFD along with its governing body, the City of Suisun, are established Health and Safety Code Sec. 1797.201 providers and, as such, enjoy the ability to establish their own rates for services including first response fees. The Local Emergency Medical Service Agency (LEMSA) does not have the authority to affect policies regarding operational or billing fees. As such, the department is able to evaluate its operational needs and address the costs of its First Response System. An example of operational costs includes staffing and all associated costs, dispatching services, etc.

By using the proposed rates, we can see there is an opportunity to recover a portion of the costs associated with providing EMS first responder services to the community. While this may seem like a significant rate, we must remember that this only brings SCFD to a contemporary rate within Solano County and still does not bring them to total cost recovery for

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their first responder system.

### **Cost of Providing PHEMS as an Added Value to the System**

Once calculated, the actual cost of providing PHEMS as an “added value” to the system can be startling, especially considering that tax dollars were not designed to cover the cost of providing this service. The actual cost of providing PHEMS by the SCFD’s First Responder system is roughly \$530,000 annually.

### **Salary for Engines/Trucks**

Using the fully encumbered personnel costs provided by the Department, a rate for service will be broken down based on department-wide costs along with a cost per EMS incident. While the Department currently has some Paramedics and EMTs staffing the engines and trucks, the cost breakdown captures the cost of 100% firefighter/paramedic staffing as this would reflect the maximum cost for these positions.

SCFD uses one engine company as the primary First Responder company. There is currently only one truck company at this time. Using the following FY 20/21 budgeted personnel costs, we can illustrate the total costs:

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**Figure 4: Suisun City Fire Department Personnel Costs, Adopted Budget FY 20/21**

Personnel	Quantity	Cost
Full-time personnel	7	\$713,300
Benefits		\$537,100
Volunteer Stipends		\$120,000
<b>Total Personnel Costs</b>		<b>\$1,370,400</b>

The hourly rate per engine company is based on the calculation that combines total hourly wages divided by the total number of staffed hours per year. This in turn will determine the hourly rate per company.

**Figure 5: Calculation of Hourly Personnel Cost Based on FY 20/21 Adopted Budget**

Description	Description	Amount
Total Personnel Costs		\$1,370,400
Total Unit Hours per Year	One Company	8,760
Unit Hour Cost	Combined Full-time and Volunteer Staffing	\$156.44



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**Other Associated Costs Directly Related to EMS**

The Suisun City Fire Department commits other resources into its EMS response. The following is a list of these additional resources.

**Figure 6: Other Costs Directly Related to EMS Responses, FY 20/21**

Description of Additional Costs	Amount
Medical Director	\$15,000
Insurance	\$4,200
DEA License	\$244
EMS Supplies	\$9,133
Gear and Equipment	\$3,710
Amortization of Cardiac Monitor Cost and Software Support – 3 Years	\$23,109
Capital Replacement Fund for Cardiac Monitors plus 10% Inflation	\$25,420
Depreciation of Fire Engine Based on EMS vs Total Responses	\$45,141
Capital Replacement Fund for Fire Engine Replacement	<u>\$58,715</u>
<b>Total</b>	<b>\$184,672</b>

Dispatch services are provided by City of Suisun Dispatch Center and the FY 20/21 budgeted cost is \$95,500. The cost has been broken down on a per call basis and is then multiplied by the total number of EMS calls.

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**Figure 7: Allocation of Dispatch Costs to EMS Responses**

Description	Amount
Total Cost of Dispatch System	\$95,500
Total Number of Calls	2,582
Cost Per Call	\$36.99
Total EMS Calls	1,943
Total Dispatch Costs Allocated to EMS Responses	\$71,872

### **Determining the Actual Cost of Service**

The average time for this calculation is based on CAD data for all EMS incidents. This includes items such as response time, time on scene assisting transport provider and patient or patient's family, assisting law enforcement, and returning to quarters. Experience has shown in other studies that First Responder personnel will spend an additional 30 to 40 plus minutes per call performing indirect tasks required for each EMS incident. These ancillary tasks include, at a minimum, incident reports, clean up, equipment/apparatus readiness, restocking of supplies, and drills/training including recertification requirements.

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**Figure 8: Calculation of Total Cost of First Responder Services Per EMS Incident**

Description	Amount
Total Number of EMS Responses (D)	1,943
Total Number of Hours Committed to Responses	764.3
Additional Hours for Report Preparation	971.5
EMS Training Hours	486.0
Total EMS Related Hours (A)	2,221.8
Average Hourly Rate per Company (B)	\$156.44
Cost of EMS Related Hours (A x B)	\$347,578
Other Costs Associated with Providing EMS Service	\$184,672
Dispatch Costs Allocated to EMS Responses	\$71,872
Total Cost to Provide First Responder Services (C)	\$604,122
Cost per Incident for Providing First Responder Services (C/D)	\$310.92

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**Calculated Rate for First Responder Fee for Suisun City Fire Department**

Using all the information available as noted previously, a calculated rate of \$310.92 for each EMS response will, when applied to the historical percentages received from potential payers of such fees, produce an estimated \$97,318 in cost recovery for First Responder Services as follows:

**Figure 9: Calculation of Estimated Revenue from First Responder Fee Billings**

Description	Amount
Total Calculated Cost of Providing First Responder Fee Services	\$604,122
Cost per Incident for Providing First Responder Services (total calculated cost divided by 1,943 EMS incidents)	\$310.92
<u>Estimated Collections Based on Per Incident Rate</u>	
<b>Private Pay</b> (1,943 total EMS incidents x 5% Payer Mix x 12% collection = 12 private pay incidents; 12 incidents x \$310.92 cost per incident)	\$3,731
<b>Commercial Insurance</b> (1,943 total EMS incidents x 15.5% Payer Mix x 100% collection = 301 commercial insurance incidents; 301 incidents x \$310.92 cost per incident)	<u>\$93,587</u>
<b>Potential Collection from First Responder Fees</b>	<b>\$97,318</b>

**Calculated Impact of the Treat and Release Fee**

The State of California acknowledges there is a cost associated with responding to a patient who does not want or need to be transported to the hospital. As such, the State Medi-Cal system compensates providers who respond to Medi-Cal beneficiaries who are not ultimately transported. Known as a Treat and Release (T & R) or Treat Non-Transport, the State pays the BLS rate for these responses. While Medicare does not pay for these services, most, if not all, commercial insurers readily pay these fees and in one case, a major commercial insurance provider has established a fixed rate of compensation in these

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circumstances. While the overall impact of these fees is minimal compared to the overall system revenue, it is important to recognize that there is revenue that can, and should, be collected from these encounters. This additional revenue added to the overall compensation for the system will reduce the impact on the taxpayers for the EMS services.

Assuming that we use the same FRF hourly rate as the T & R base rate and apply the additional charges such as oxygen, monitor, etc., the Department could see an additional \$10,000 in revenue.

## Summary

When evaluating a department's fees for service, the ultimate goal should be to achieve 100% cost recovery or cost neutrality for the benefit of the taxpayer. In doing this, the Department is placed in a stronger financial position than if they are providing a service that requires subsidy from the general fund. The leadership within the SCFD is acting in a prudent and responsible manner in developing First Responder Fees for services. By undertaking these actions, they are not only monitoring the financial impacts that healthcare has on the Department's operations, but they are also safeguarding the taxpayer's investment into their fire response system as well.

There are three basic components that drive a system's ability to be cost neutral: call volume, payer mix, and rates for service. For the most part, the only ability a provider has to influence cost recovery is to adjust rates or lower costs.

In most cases it is impractical, and in some cases impossible, to lower costs as a mechanism to meeting cost recovery. The two primary methods to reduce cost are to decrease the personnel cost and reduce or modify deployment. Lowering personnel costs is often difficult due to contractual obligations between the Department and the labor groups. A challenge

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in reducing deployment is that in most cases, the system is already operating at a relatively high operational tempo or, as in this case, with minimal staffing levels. Therefore, a common method to secure cost recovery of Department EMS-related operating expenses is to develop and assess FRF rates.