

**City of Stockton
Stockton Regional Fire Dispatch
Threshold Analysis**

December 2013

**Management
Partners**





December 13, 2013

Mr. Jeff Piechura
Fire Chief
City of Stockton
425 N. El Dorado St
Stockton, CA 95202

Dear Chief Piechura:

Management Partners is pleased to transmit this threshold analysis of regional fire dispatch options as the City of Stockton considers next steps to reduce the General Fund contribution to its fire dispatch operation. The report describes, at a high level, existing options for fire dispatch operations in San Joaquin County. It suggests the major urbanized fire agencies may be interested in the development of an independent joint powers authority (JPA) that would either contract with the City of Stockton for regional fire dispatch services or would take over providing the services. Cost, governance and performance standards would be the most influential factors for moving forward in such an endeavor.

The fire and emergency medical dispatch system in San Joaquin County is characterized by a relatively high level of regional service provision, which is a net benefit from the standpoint of obtaining economies of scale in the delivery of the service. The two major fire dispatch service providers are the City of Stockton, which provides services to the City of Stockton as well as the City of Manteca and four fire districts, and a consortium of users that contract with a dispatch service, LifeCom. LifeCom is owned by the County ambulance service provider, American Medical Response (AMR). The contract with LifeCom is administered by a JPA formed by 16 fire and emergency medical service providers.

There is a fairly significant difference between the two regional providers. Stockton serves a primarily urbanized area with many more total calls for service, and it is a part of a public agency. LifeCom adapted fire dispatch functions from an emergency medical service environment and while it serves more entities than Stockton, they are primarily rural with low call volumes with one exception, the City of Tracy. LifeCom is a private business operating under contract with the County (for emergency medical dispatch) and the JPA for fire dispatch. The Stockton dispatch system services approximately 50,000 calls per year, while LifeCom handles approximately 23,000. There are other differences as well: the Stockton system has adopted and monitors performance standards while LifeCom has not. Costs also differ. Stockton's costs are considerably higher than reported for LifeCom, but LifeCom also benefits from revenue support derived from the AMR ambulance business.

The report concludes there is insufficient information to assess the capability of the current JPA (Joint Radio Users Group or JRUG) to meet the fire call handling dispatch performance requirements that would likely be required by the City of Stockton and the member agencies to whom it currently provides fire dispatch services, as well as relatively more urbanized areas such as Tracy. Based on this analysis Management Partners believes that more urbanized areas may find cooperation with the Stockton regional system to be beneficial. The report recommends that the City conduct further analysis regarding Stockton Fire Dispatch operational technology and capital equipment needs and funding options, as well as staffing costs that would be required for the Stockton Emergency Communications Division (ECD) to serve as a larger regional dispatch operation. Such a step would reduce the City General Fund support of fire dispatch operations between \$400,000 and \$600,000 annually.

Implementation steps would include soliciting letters of interest from potential member agencies. Should sufficient interest be expressed, a working group should be established to confirm technology needs, develop capital and operational cost estimates, recommendations for administrative responsibilities in support of a JPA and an acceptable governance structure. Management Partners estimates that such a work program would require about 18 months for completion.

Management Partners also recommends that the City of Stockton and other larger fire dispatch agencies within the county meet with San Joaquin County Emergency Medical Services (EMS) regarding the next EMS bid process. Regional systems providing both EMS and fire dispatch services are becoming more common as public agencies try to improve cost effectiveness. It is possible that a regional system larger than either JRUG or the Stockton system could emerge from this process, although it would require bridging the difference between dispatching standards, especially regarding fire calls. Participation would also serve to provide transparency regarding the relationship between fire dispatch costs (for 16 local agencies) and ambulance revenues (countywide).

Sincerely,



Gerald E. Newfarmer
President and CEO

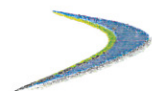


Table of Contents

Executive Summary	1
Background	4
Overview of Fire Dispatch in San Joaquin County	4
<i>Stockton Fire Dispatch</i>	5
Project Approach.....	8
Interviews.....	8
Documents	9
Peer Agency Comparisons.....	10
<i>Governance</i>	11
<i>Fire Dispatch Performance Standards</i>	12
<i>Peer Agency Budget, Call Volumes and Staffing</i>	14
Regional Fire Dispatch Options.....	17
Stockton ECD Technology and Capital Needs	17
<i>Alternative Stockton Fire ECD Location</i>	19
<i>Implications for Regional Fire Dispatch</i>	19
Alternative Fire Dispatch Options.....	21
<i>Option 1: Existing Stockton ECD Semi-Regional Dispatch with Full Cost Recovery from Contract Agencies</i>	21
<i>Option 2: New Semi-Regional Fire Dispatch JPA (existing Stockton ECD contract agencies plus the cities of Tracy and Lodi) under contract with Stockton ECD for Fire Dispatch Services</i>	25
<i>Option 3: New Regional Fire Dispatch JPA (Stockton ECD and All County Fire Agencies)</i> 30	
<i>Option 4: Fire Dispatch Services Provided Under Contract with JRUG</i>	35
Conclusion.....	39
Attachment – Summary of Recommendations.....	40

Tables

Table 1.	Alternative Fire Dispatch Options Annual Revenue and Expenditure Projections.	2
Table 2.	JRUG Member Agencies	4
Table 3.	Stockton ECD Call Volume FY 2012-13.....	6
Table 4.	Possible Stockton Staffing Structure Under a 12-Hour Shift Schedule.....	7
Table 5.	Regional Peers General Information	11
Table 6.	Regional Peers Governance Structures	11
Table 7.	Dispatch Call Handling Standards	12
Table 8.	Fire Call Handling Standards and Actual Performance for FY 2012-13	13
Table 9.	Emergency Call Volumes and Expenditures.....	14
Table 10.	AMR Emergency Ambulance Rates.....	15
Table 11.	Charges for Calls and Revenue for the Stockton ECD and Peer Agencies	16
Table 12.	Peer Staffing and Workload	16
Table 13.	Additional Operating Costs Needed for Proper Replacement Schedule of Capital Items for ECD.....	18
Table 14.	One-Time Replacement Costs for Current Operations.....	18
Table 15.	Capital Equipment Replacement Needs Prior to Expanding Dispatch Services	20
Table 16.	Current Operations Compared with Option 1 (Existing Stockton ECD Semi-Regional Dispatch with Full Cost Recovery from Contract Agencies)	23
Table 17.	Changes in Cost for Each Participant Under Option 1.....	23
Table 18.	Changes in Call Volumes between Current Operations and Option 2.....	26
Table 19.	Expected Annual Expenditures for Option 2	27
Table 20.	Current Stockton ECD Operations Compared with Option 2 (New Expanded Semi-Regional Fire Dispatch JPA Under Contract with Stockton ECD(with the addition of the Cities of Tracy and Lodi).....	27
Table 21.	Changes in Estimated Participant Costs Under Option 2.....	28
Table 22.	Changes in Call Volumes Between Current Operations and Option 3	30
Table 23.	Expected Annual Expenditures for Regional Fire Dispatch Services.....	31
Table 24.	Current Operations Compared with Option 3 (Regional Fire Dispatch JPA – All County Agencies)	32
Table 25.	Change in Estimated Participant Costs Under Option 3.....	33
Table 26.	Current Operations Compared with Option 4.....	36

Figure

Figure 1. Percent of Calls vs. Revenue Support for Stockton ECD.....	22
--	----

Executive Summary

Management Partners was retained in FY 2011-12 to assist with the project management of the City of Stockton's pre-bankruptcy mediation proceedings. The contract was subsequently amended to include providing assistance in managing the City's bankruptcy proceedings. As part of this contract, we were also tasked with reviewing the City's operations to identify direct cost savings opportunities and streamlining and efficiency improvements which would result in savings or a reallocation of resources when implemented. In June 2013, the City Manager conveyed a range of recommendations to the Stockton City Council, which included the following recommendation as a possible path to reduce City fire dispatch costs:

Authorize the initiation of discussions with San Joaquin fire agencies, the existing JPA (Joint Radio Users Group – JRUG), San Joaquin County and other local regional fire dispatching agencies to determine the feasibility, costs, parameters and efficiencies of participation in an existing or new entity to provide fire dispatch services to the City.

The City Council approved the recommendation and Management Partners (in consultation with City fire staff) initiated a review and threshold analysis of regional dispatch options. This report presents the results of this analysis as well as four recommendations regarding next steps for the City of Stockton Fire Emergency Communications Division (Stockton ECD).

During our review and analysis, we met with representatives of various fire agencies throughout San Joaquin County, County Emergency Management Systems (EMS), the Joint Radio Users Group (JRUG) Executive Board, LifeCom (the American Medical Response affiliate responsible for providing dispatch operations to JRUG) and City communications staff from both the Fire and Information Technology Departments.

Important themes and issues emerged from these interviews which have informed this threshold analysis and our recommendations. While we did

not meet with every county fire agency or conduct a formal survey regarding fire dispatch performance, the following perspectives obtained through our interviews and discussion with the larger, more urban fire agencies will influence the eventual course to be pursued by the City of Stockton Fire Department.

1. There were varying opinions among fire agencies (JRUG members and non-members) regarding the performance of LifeCom (under contract with JRUG) as a fire dispatch operation. Neither JRUG nor LifeCom provided fire call handling performance information. Some believed the performance to be satisfactory to their needs, while others did not believe that LifeCom provided experienced fire dispatch personnel sufficient to meet the performance required of urban fire dispatch operations.
2. Some fire agencies expressed strong interest in pursuing an alternative regional fire dispatch option even if the costs were greater than those of JRUG, but only through an independent joint powers authority where they could participate equitably in operational and governance considerations.
3. The City of Stockton would need to invest significantly in technology and equipment upgrades to provide expanded regional fire dispatch operations beyond its current member agencies. However, a financial strategy for accomplishing this through potential assistance or reimbursements from an expanded semi-regional fire dispatch agency (JPA) under contract with Stockton ECD could likely be achieved.

Table 1 summarizes the four options identified in this threshold analysis and compares them with current operations.

Table 1. *Alternative Fire Dispatch Options Annual Revenue and Expenditure Projections*

Fire Dispatch Options	Total Operating Budget	Revenue	General Fund Support ²	Estimated Net Change from Current General Fund Support
Existing Semi-Regional Fire Dispatch by Stockton ECD	\$2,268,496	\$371,342 ¹	\$1,897,154	N/A
Option 1 Existing Semi-Regional Dispatch with Full Cost Recovery from Contract Agencies	\$2,333,778	\$648,440 ³	\$1,685,338	(\$211,816)
Option 2 New Semi-Regional Fire Dispatch JPA under contract with Stockton ECD (existing Stockton member agencies plus the Cities of Tracy and Lodi)	\$2,572,811	\$1,074,331 ⁴	\$1,498,480	(\$398,674)

Fire Dispatch Options	Total Operating Budget	Revenue	General Fund Support ²	Estimated Net Change from Current General Fund Support
Option 3 New Regional Fire Dispatch JPA under contract with Stockton ECD (Stockton ECD and All County Fire Agencies)	\$2,866,985	\$1,567,398 ⁴	\$1,299,587	(\$597,567)
Option 4 Fire Dispatch Services Provided Under Contract with JRUG	\$751,124	\$78,221	\$672,903	(\$1,224,251)

¹ Revenue for "existing operations" comes from charges per call and from an assessed value formula for services provided.

² General Fund Support is the net cost to Stockton's General Fund.

³ Revenue for Option 1 is obtained by calculating the full cost of providing service to contract agencies per call and charging that amount.

⁴ Revenues for Options 2 and 3 are calculated by charging the full cost per call for all member agencies of a new JPA except for Stockton whose costs are captured in the General Fund Support column.

Each of these options is described in more detail in the section of this report entitled Alternative Fire Dispatch Options. This threshold analysis suggests that if the City of Stockton is not prepared to accept the fire call handling dispatch operational performance provided by LifeCom under contract with JRUG, then Management Partners recommends the following next steps:

1. Improve the current Stockton ECD operation by increasing the annual allocation to the internal service fund (ISF), which supports fire communications needs.
2. Ensure full cost recovery from existing Stockton ECD member agencies by increasing the costs per call to reflect the true cost of providing the service.
3. Complete an in-depth technology and equipment analysis to determine the financial investment that would be required for Stockton ECD to serve as regional dispatch provider under contract with an independent JPA.
4. Formally survey potential members of a regional fire dispatch joint powers authority (JPA) to determine cost and performance objectives that would need to be achieved in order to contract with Stockton ECD as the provider of fire dispatch operations.

Background

Overview of Fire Dispatch in San Joaquin County

Prior to 2006, the City of Stockton provided fee-based dispatching services for all fire agencies and ambulance services in the San Joaquin County from their fire dispatch facility. As dispatching fees from the City continued to rise, a majority of the fire agencies in San Joaquin County migrated to the LifeCom operation for a much lower cost than they were paying the City of Stockton. The fire agencies formed JRUG, a JPA to handle dispatch billings to each agency and to make a single monthly payment to LifeCom on their behalf. JRUG also handles all radio infrastructure maintenance and purchasing via a \$5.00 per emergency call assessment. LifeCom currently provides fire and EMS dispatching for the following 16 agencies. Table 2 provides an overview of each agency in JRUG.

Table 2. *JRUG Member Agencies*

JRUG Member Agency	Form of Government	Staffing	Ambulance Service Provider
City of Tracy Fire Department ¹	Municipal Fire Department	Full-time Staff	AMR
Clements Rural Fire Protection District	Fire Protection District	Volunteer	AMR
Collegeville Rural Fire Protection District	Fire Protection District	Volunteer	AMR
Escalon Consolidated Fire Protection District	Fire Protection District	Combination	Escalon Community Ambulance
Farmington Fire Protection District	Fire Protection District	Volunteer	Escalon Community Ambulance
French Camp-McKinley Fire Protection District	Fire Protection District	Combination	AMR
Lathrop-Manteca Fire Protection District	Fire Protection District	Combination	Manteca District Ambulance Service
Liberty Rural County Fire Protection District	Fire Protection District	Combination	AMR
Linden-Peters Rural County Fire Protection District	Fire Protection District	Combination	AMR

JRUG Member Agency	Form of Government	Staffing	Ambulance Service Provider
Manteca District Ambulance Service	Non-Profit	Volunteer	Manteca District Ambulance Service
Mokelumne Rural County Fire District	Fire Protection District	Combination	AMR
Montezuma Fire Protection District	Fire Protection District	Combination	AMR
Ripon Consolidated Fire Protection District	Fire Protection District	Combination	Ripon Consolidated Fire Protection District
Thornton Rural Fire Protection District	Fire Protection District	Combination	AMR
Waterloo-Morada Rural County Fire Protection District	Fire Protection District	Full-time Staff	AMR
Woodbridge Rural County Fire Protection District	Fire Protection District	Full-time Staff	AMR

Source: LAFCo 2011 MSR Rural Fire Protection Districts San Joaquin County report

¹Tracy provides fire protection services to the community of Mountain House and the Tracy Rural Fire Protection District.

Of the 16 JRUG member agencies, 14 are Fire Protection Districts, of which:

- Two use full-time staff,
- Three use volunteer firefighters, and
- Nine use a combination staffing structure of both paid full-time employees and volunteer firefighters.

Stockton Fire Dispatch

Stockton's fire dispatch center was constructed in 1995 and was designed as a regional dispatch center, with seven workstations for call takers, dispatchers, and a supervisor. The center dispatches over 49,000 incidents per year and uses up to four workstations at a time. The Stockton ECD also performs afterhours dispatching for the City's Municipal Utilities Department.

Stockton ECD provides fire dispatch services for the cities of Stockton and Manteca and the following four contract fire districts.

- Boggs Tract Fire Protection District,
- Eastside Rural County Fire Protection District,
- Lincoln Rural County Fire Protection District, and
- Tuxedo-Country Club Fire District.

Each of the districts has a standing contract with the City of Stockton for fire protection and dispatch services. The contract has no end date and

can only be terminated with a five-year notice. The contract with the City of Manteca can be terminated with a 30-day notice.

The ECD is located at 110 W. Sonora Street (Fire Company No. 2). All of the other fire agencies in San Joaquin County, with the exception of Lodi, contract with JRUG. JRUG's operator, LifeCom is owned and operated by AMR, which also provides ambulance transport services for most, but not all of the County.

The Lodi Police Department has provided fire dispatch services to the Lodi Fire Department since 2009 after transitioning from Stockton ECD. The Fire Department serves a population of approximately 63,000.

LifeCom is required by the County Emergency Medical Services Agency (EMSA) to perform emergency medical dispatch (EMD). However, Stockton's ECD performs the dispatching of fire apparatus to fire and EMS calls (if required), but they do not dispatch ambulances (with rare exceptions). The breakdown of calls handled by Stockton's ECD for each entity is listed in Table 3.

Table 3. *Stockton ECD Call Volume FY 2012-13*

Jurisdiction	Medical Calls ¹	Non-Medical Calls ²	Total Calls	Percent of Total Calls
City of Stockton Fire Department	28,929	6,883	35,812	72.2%
Stockton Municipal Utilities Department	0	3,935	3,935	7.9%
Boggs Tract Fire Protection District	63	14	77	0.2%
Eastside Rural County Fire Protection District	1,851	528	2,379	4.8%
Lincoln Rural County Fire Protection District	635	184	819	1.7%
City of Manteca	3,968	1,759	5,727	11.5%
Tuxedo-Country Club Fire District	702	140	842	1.7%
Total	36,148	13,443	49,591	100.0%

¹ Medical calls are EMS-related calls to which fire paramedics and equipment are dispatched.

² Non-medical calls are fire suppression or other non-EMS related calls.

The data in Table 3 include calls that are related to fire and EMS incidents to which fire personnel and equipment are dispatched. The majority of these calls (72.2%) are attributable to the dispatch of the Stockton Fire Department.

Stockton ECD Staffing

To respond to 49,591 calls per year, Stockton currently has 14 authorized full-time equivalent (FTEs) employees in the ECD. The ECD currently operates on a 24-hour shift schedule, but is considering the benefits of migrating to a 12-hour shift schedule. Stockton staff estimates that it may be possible to transition to a 12-hour shift schedule with no change in service level or staffing levels. Table 4 provides a listing of a possible staffing structure under a 12-hour shift schedule.

Table 4. *Possible Stockton Staffing Structure Under a 12-Hour Shift Schedule*

Staff	Current Operations (12 hour shifts)
Fire Telecommunications Supervisors	4
Fire Telecommunicator II	10
Total FTEs	14

The staffing level for 12-hour shifts would allow for four shifts with:

- One supervisor per shift,
- Two fire telecommunicator positions per shift
- Two floater fire telecommunicator positions

Current response times (performance levels) are discussed later in this report. Staff does not estimate that they would change as a result of a transition from a 24-hour to a 12-hour shift schedule.

Project Approach

Two primary parameters, cost and performance, were considered when we analyzed fire dispatch options for the City of Stockton. While cost is a critical factor, another is the level of service Stockton might receive for the price it is willing to pay if it contracts with another entity for fire dispatch. This section describes our approach to gathering information, which informed our recommendation and analysis, as well as a brief comparison of Stockton's ECD and selected peers.

Interviews

The scope of this project did not provide for interviews or surveys of every stakeholder who may have an interest in fire dispatch in San Joaquin County. Rather, we focused on a select number of interviews in order to provide an overview of dispatch options and factors which will need to be considered by the City of Stockton. Interviews included the following:

- General Manager, San Joaquin County Operations & LifeCom Communications (AMR)
- Director of Communications – EMS & Fire Dispatch (AMR)
- Ripon Fire District Fire Chief (JRUG Executive Board)
- Montezuma Fire District Fire Chief (JRUG Executive Board)
- Mokelumne Rural Fire District Fire Chief (JRUG Executive Board)
- City of Tracy Fire Division Chief
- City of Manteca Fire Chief and Battalion Chief
- City of Lodi Fire Chief
- San Joaquin County EMS Administrator
- Director, Redwood Empire Dispatch Communications Authority (REDCOM) Fire & EMS Dispatch (AMR)
- City of Stockton Fire Chief and ECD staff
- City of Stockton Police Department and Information Technology Department staff

General themes that emerged as a result of the interviews included:

1. Varying opinions about the performance of LifeCom as a fire dispatch operation. Some entities (typically smaller fire districts) expressed satisfaction with their fire dispatch performance, while larger entities with more active or complex fire dispatch needs believed LifeCom did not provide the depth of experience required to meet their performance standards.
2. General concerns about the training of LifeCom dispatching personnel in fire call handling and the lack of in-depth knowledge of San Joaquin County geography required to support fire dispatch.
3. Receptivity by the JRUG Executive Board and LifeCom to meeting with Stockton and discussing the provision of fire dispatch to the city. Specific terms and conditions were not discussed, although there was agreement that the current costs of service would be the same for Stockton through the end of the current contract with LifeCom in 2016.
4. A lingering, and in some cases, strong distrust of the City of Stockton based on the regional dispatch service provided by the City until 2006. The distrust was not based on service, but rather on cost, governance, and interagency communication.
5. Strong interest by some of the larger fire agencies in not joining JRUG for fire dispatch services based on unsatisfactory views of LifeCom performance, experience, and lack of responsiveness to improve operations, in spite of the lower cost.
6. Interest by some of the larger fire agencies in possibly contracting with Stockton Fire for fire dispatch services through a JPA, depending on cost and governance considerations.

Documents

Management Partners reviewed a range of documents as part of our analysis, including:

- Fire dispatch standards, locally and nationally
- City of Stockton ECD budget and fire call handling performance
- San Joaquin County Local Agency Formation Commission (LAFCo) Municipal Services Review regarding rural fire protection districts
- Grand Jury Reports regarding emergency dispatch protocol in San Joaquin County
- San Joaquin County EMS policies

- REDCOM FY 2013-14 Annual Budget and actual fire call handling performance measures
- REDCOM JPA Agreement
- REDCOM fire/EMS dispatch contract with AMR
- JRUG Annual Budget
- JRUG JPA Agreement
- JRUG Contract and addendum for dispatch services with AMR/LifeCom
- AMR/LifeCom contract with San Joaquin County for EMS dispatch

Management Partners requested fire dispatch performance measures, staffing information, and budget information regarding the actual cost of providing dispatch services from LifeCom; however, none of the information was provided.

Peer Agency Comparisons

To help inform our analysis, Management Partners sent a survey to the following agencies to gather basic fire dispatch budget, performance and staffing information.

- Joint Radio Users Group (JRUG)
- Redwood Empire Dispatch Communications Authority (REDCOM) – A JPA located in Sonoma County under contract with AMR to provide fire and EMS dispatch services to 31 agencies including cities, fire protection districts, community service districts providing fire protection services, and public and private ambulance providers.
- Sacramento Regional Fire EMS Communications Center (SRFECC) – A JPA providing EMS and Fire dispatch with public employees to nearly all of Sacramento County and parts of Placer County.
- Stanislaus Regional 911 (RS911) – SR911 is a JPA between the City of Modesto and Stanislaus County which provides Fire and law enforcement dispatch services to 22 agencies within the County. SR911 is staffed by public Employees from Stanislaus County.
- Santa Cruz Regional 911
- Alameda County Regional Emergency Communication Center.

Santa Cruz Regional and Alameda County Regional declined to participate and JRUG provided only partial responses.

Table 5 provides general peer information from the responding agencies.

Table 5. *Regional Peers General Information*

Key Indicators	Stockton	JRUG	REDCOM	SRFECC	SR911
Service Population	407,383	220,189	480,000	1,366,444	404,716
Governance Model	Municipal	JPA	JPA	JPA	JPA
In-house or Contracted Operations	In-house	Contracted	Contracted	In-house	In-house
Private or Public Employees	Public	Private	Private	Public	Public
Service Calls Dispatched	Fire	Fire	Fire, EMS	Fire, EMS	Fire, Police, Sheriff
Fire Dispatch Performance Standards?	Yes	No	Yes	No	No

Two peer agencies (SRFECC and SR911) perform dispatch services in-house with public employees. The other two peer agencies (JRUG and REDCOM) provide dispatch services through a contract with AMR, who uses non-public employees to provide dispatch services. Of the four peers, only REDCOM has adopted and therefore reported performance standards for fire call handling.

Governance

Each peer agency analyzed is governed slightly differently in terms of cost recovery methodology and governance structure. Table 6 describes the differences among the peer agencies.

Table 6. *Regional Peers Governance Structures*

Agency	Cost Recovery Methodology and Governance Structure
Stockton	Cost Recovery: ECD receives support from the City's General Fund and charges different cost per call rates for EMS and non-EMS related calls. Some agencies pay for fire dispatch along with other services provided by the City of Stockton through a calculation involving a portion of ad valorem revenue. Governance Structure: Stockton provides fire dispatch through a contract to other agencies. The City is responsible for operational decisions about fire dispatch.
JRUG	Cost Recovery: JRUG charges member agencies separate rates for fire dispatch and EMS calls in addition to a flat fee per call based on a contract negotiated with LifeCom (AMR). (AMR management acknowledges that ambulance revenues offset some portion of fire dispatch costs.) Governance Structure: JRUG is a JPA that contracts fire dispatch services through AMR/LifeCom. The Board consists of one representative (a director) from each member agency. Each director has one vote when determining policy decisions.
REDCOM	Cost Recovery: REDCOM charges the same cost per call rate for all calls dispatched to each member agency of the JPA. REDCOM also levies a tiered base fee determined by the annual call volume of each member agency. (REDCOM contracts with AMR for fire and EMS dispatch.) Governance Structure: REDCOM is governed by a seven member Board of Directors with a complex representation structure from member agencies.

Agency	Cost Recovery Methodology and Governance Structure
SRFECC	Cost Recovery: SRFECC member agencies divide operating costs based upon each respective agency's percentage share of call volume. Governance Structure: SRFECC provides a weighted vote for member agencies in policy decisions equivalent to the percentage of overall call volume.
SR911	Cost Recovery: The JPA between the City of Modesto and Stanislaus County splits dispatching costs based on population. The County made separate agreements with five contracting cities ("cost-sharing members") to split their dispatching costs by charging them 25% based on population and 75% on incident count/call volume. The County discounts these five contracting cities 11.6% for their fire dispatch. Also, SR911 has separate contracts with Oakdale City Fire and the County's Probation Department. Governance Structure: SR911 is administered and governed by a seven-member Commission composed of elected and appointed officials from Stanislaus County and the City of Modesto.

The differences in cost recovery methodologies and governance structures within the peer group offer many alternatives. If Stockton were to become a regional fire dispatch operation through a JPA, new members would need to consider which of these options (or any combination thereof) would work best for them.

Fire Dispatch Performance Standards

Management Partners found several organizations that support emergency dispatch. However, there were only three that readily publish dispatch call handling standards. The organizations and some related standards are listed in Table 7.

Table 7. *Dispatch Call Handling Standards*

Organization	Standard
National Fire Protection Association (NFPA)	95% of alarms received on emergency lines shall be answered within 15 seconds 99% of alarms received shall be answered within 40 seconds 80% of emergency alarm processing shall be completed within 60 seconds 95% of alarm processing shall be completed within 106 seconds
National Emergency Number Association (NENA)	90% of all 911 calls arriving at the Public Safety Answering Point (PSAP) shall be answered within 10 seconds during the busiest hour (the hour each day with the greatest call volume) 95% of all 911 calls should be answered within 20 seconds
California 9-1-1 Emergency Communications Division	100% of 911 calls shall be answered within 10 seconds during the busiest hour of any shift

Note: NFPA has more detailed standards than those listed in this table; however they are not relevant to the scope of this project.

Among the agencies included in this report, only Stockton and REDCOM provided standards and actual performance. SRFEC and SR911 reported that they do not track performance of fire dispatch call handling. JRUG indicated that fire dispatch standards are currently being considered; however, none were adopted at the time of our research. Table 8 lists the standards and measures for fire call handling for Stockton and REDCOM.

Table 8. *Fire Call Handling Standards and Actual Performance for FY 2012-13*

Agency	Performance Standard and Actual Performance
Stockton ECD ¹	Goal: 90% of emergency alarms processed shall be within 60 seconds Actual: 93.9% of emergency alarms processed within 60 seconds Goal: 95% of emergency alarms processed shall be within 90 seconds Actual: 97.3% of emergency alarms processed within 90 seconds
REDCOM	Goal: 90% of emergency alarms processed shall be within 70 seconds² Actual: 93% of emergency alarms processed within 60 seconds Goal: 100% of 911 calls shall be answered within 10 seconds³ Actual: 99.3% of 911 calls are answered within 10 seconds

¹ Stockton's performance standards are based on NFPA standard 1221, section 7.4.2. In 2013, NFPA updated their goals. While Stockton has not updated their goals to match this change, their percentage of meeting goals would increase due to the standard being less stringent.

² This standard is loosely based on NFPA 1221

³ This standard is based on California 911 Emergency Communications Division

In FY 2012-13 the Stockton ECD exceeded both the 60 and 90-second thresholds for call processing performance standards. REDCOM exceeded its goal of processing alarms but barely fell short of answering all calls within its goal of 10 seconds. These data indicate that Stockton ECD is currently operating at or above nationally recognized standards for fire call handling and on par with at least one peer agency.

As mentioned previously, JRUG has not adopted fire call handling standards nor has LifeCom published or provided actual performance. As a result, it is not possible to compare the standard of service that would be lost or gained if Stockton were to join JRUG and contract with AMR for fire dispatch services.

The complexity of fire dispatching varies greatly between urban and rural areas. Fire dispatch in an urban environment is more likely to have higher call volumes, multiple and simultaneous responses, more complex responses often requiring coordinated action with law enforcement, specialized knowledge when dispatching in response to a hazardous materials spill, and multi-level structure fires. Rural fire dispatch, on the

other hand, typically experiences lower call volumes, fewer simultaneous apparatus responses, and less complexity regarding the type of structures requiring fire suppression. As a result, fire dispatchers in urban areas need additional training and more in-depth experience to provide and meet the performance expected by fire agencies in that type of environment.

Peer Agency Budget, Call Volumes and Staffing

Table 9 provides an overview of call volumes and expenditure data for the Stockton ECD and regional dispatch peer agencies. Call volumes listed below include calls related to fire and EMS incidents to which fire protection agencies were dispatched. SR 911 call volumes are much higher as they include law enforcement dispatch in addition to fire.

Table 9. *Emergency Call Volumes and Expenditures*

Key Indicators	Stockton	JRUG	REDCOM	SRFECC	SR911
Total Operating and Capital Budget	\$2,268,496 ¹	\$441,996 ²	\$3,297,344	\$8,003,132	\$8,276,476
Total Call Volume ³	49,591 ⁴	23,454	82,176	166,625	328,162 ⁵
Cost per Call Estimate ⁶	\$45.74	\$18.85 ⁷	\$40.13	\$48.03	\$25.22

¹ Stockton ECD FY 2013-14 adopted budget

² JRUG's operating and capital budget is reflective of the JPA's operating expenditures, but not AMR's actual operating costs.

³ Call volumes include all calls handled by each dispatch center except for JRUG which include only fire related dispatch calls

⁴ Stockton's call volume includes dispatch calls (fire and non-medical) for the City of Manteca, four fire protection districts, and Stockton's Municipal Utilities Department.

⁵ SR911 dispatches fire and law enforcement, but not EMS.

⁶ Cost per call is an estimate calculated by dividing an agency's annual budget by the annual call volume.

⁷ JRUG does not charge \$18.85 per call for all member agencies. This cost per call is an estimate calculated by dividing the total budget by the total call volume.

The "cost per call" should not be considered equivalent to the actual "charge per call" by a particular agency. For illustrative purposes, the "cost per call" is the amount estimated to provide dispatch service by a regional agency for each phone call based on the total budget divided by the total call volume. The "charge per call" would be the actual amount an agency bills for each call. These amounts are not always the same due to a number of factors including not charging for full cost recovery and differing methods of determining reimbursement for services. For the purposes of this study, we divided total budgets by total call volume (as described above).

Stockton's estimated cost per call of \$45.74 is between REDCOM's and SRFECC's cost per call of \$40 and \$48, respectively. SR911's estimated cost per call (\$25.22) is much lower mainly due to the significantly higher

call volume and a relatively small staff (for the volume of calls handled). See Table 12 for staffing detail.

JRUG's cost per call estimate (\$18.85, calculated by dividing the operating budget by total call volume) is the lowest of the peers but it does not reflect the actual LifeCom operational budget for providing fire dispatch services to JRUG. Their budget was not provided to Management Partners.

Management Partners believes that the cost per call estimate obviously does not reflect the true cost of fire dispatch service as AMR likely supports and offsets fire dispatch operating costs through its San Joaquin County EMS contract. Table 10 lists the difference in ambulance transport rates between Sonoma and San Joaquin counties, both provided by AMR. It also provides the ambulance rates for the other two peer agency counties.

Table 10. AMR Emergency Ambulance Rates

Rates	Sonoma County	San Joaquin County	Difference
Basic Life Support (BLS) Rate	\$1,239.62	\$1,733.89	40%
Advanced Life Support (ALS) Rate	\$1,600.59	\$2,033.15	27%
Mileage (per mile)	\$34.54	\$43.14	25%
Night Charge	\$107.20	\$143.44	34%
Emergency Charge	\$176.55	N/A	N/A
Oxygen Charge	\$149.98	\$126.90	-15%
Average Difference			22%

On average, AMR's San Joaquin County rates are 22% higher than in Sonoma County although there may be some regional cost differences that account for this. As noted in Table 6, these significantly higher rates, combined with the seemingly unsustainable, low cost for fire dispatch charged to JRUG by AMR (see charges listed in Table 11) indicate that ambulance revenue is offsetting fire dispatch costs for JRUG members. Stockton residents transported by AMR are therefore helping subsidize fire dispatch operations for JRUG members through their ambulance rates.

The support of fire dispatch operations from ambulance transport fees is not unique however. For example, RECDOM staff indicated that AMR initially subsidized fire dispatch operations in Sonoma County in the amount of about \$600,000 annually. However, that subsidy is no longer

in effect and the result is a charge for full cost recovery. The current charge per call for fire and EMS dispatch for REDCOM members is approximately \$57.

Charges for calls and associated revenue for the Stockton ECD and its peers are listed in Table 11.

Table 11. *Charges for Calls and Revenue for the Stockton ECD and Peer Agencies*

Key Indicators	Stockton	JRUG	REDCOM	SRFECC	SR911
Charge per Call to Member Agencies	\$10.75 Medical \$21.49 Non-Medical	\$10.95 EMS \$21.90 Fire	\$57 ¹	N/A ²	N/A ³
Annual Revenue	\$371,342	\$448,215	\$3,178,763	\$8,003,132	\$7,543,189

¹ REDCOM's charge per call is calculated using a five-year average of call volume and total budget subsidized with reserves.

² SRFECC does not track or charge a cost per call to member agencies. Operating cost contributions are a pro-rata share of the total call volume and total operating costs.

³ SR911 does not track or charge a cost per call. SR911 uses a complex cost-sharing methodology for participating agencies to recoup operating costs. This cost per call calculation was based upon the FY 2012-13 operating budget and total call volume, including the influx of law enforcement calls.

Table 12 identifies total call volume and staffing for the Stockton ECD and its peers.

Table 12. *Peer Staffing and Workload*

Call Volume/Staff	Stockton	JRUG	REDCOM	SRFECC	SR911
Total Call Volume	49,591	23,454	82,176	166,625	328,162
Call-Taker FTEs	N/A	-	N/A	6	3
Dispatcher FTEs	10	-	20	30	36
Supervisor FTEs	3	-	5	7	4
Total FTEs processing calls ¹	14 ²	-	25	43	43
Calls per staff per year	3,542	-	3,287	3,875	7,632

Note: "N/A" = Not Applicable; Hyphen (-) = Information not available

¹ Call takers, dispatchers and supervisors all process calls.

² Stockton's FTE count is based on a possible change to a 12-hour shift schedule instead of their current 24-hour shift schedule.

Similar to the cost per call, workload for Stockton is on par with REDCOM and SRFECC. Workload for SR911 is much higher due to higher call volume and relatively small staff. JRUG did not provide staffing information and therefore their workload could not be determined.

Regional Fire Dispatch Options

As a follow-up to the City Council's direction to look at efficiencies to be gained from contracting with JRUG to reduce fire dispatch costs, Management Partners analyzed additional fire dispatch models with the goal of identifying those that would save operating costs and still provide a level of service acceptable to the City and the community. In conjunction with City fire staff, the following options were identified for further analysis:

1. Existing Stockton ECD semi-regional dispatch with full cost recovery from contract agencies,
2. New expanded semi-regional fire dispatch JPA under contract with Stockton ECD to provide services to existing contract agencies with the addition of the cities of Tracy and Lodi,
3. New regional fire dispatch JPA under contract with Stockton ECD to provide fire dispatch to all County fire agencies, and
4. Fire dispatch services provided by JRUG to Stockton ECD.

Options 2 and 3 include costs to provide administrative and management support of a JPA by the City of Stockton. These costs were used because salary and benefit data were readily available; however, such support could be provided by any JPA member agency.

Stockton ECD Technology and Capital Needs

Should Stockton choose to retain its ECD, according to City and Police technology staff, technology and equipment needs must be addressed within the next two to three years. Not doing so will risk even higher costs or possibly equipment failure. The ECD operates with a variety of technical machinery and equipment ranging from computer-aided dispatch (CAD) equipment, radio systems, alerting systems and telephone systems. Internal service funds (ISF) primarily support these systems funded by annual allocations from the Stockton Fire Department. Of course, allocations have been insufficient over the last several years as a result of the City's financial issues and bankruptcy.

Management Partners worked with Stockton ECD and the Information Technology Department to determine which capital assets were not receiving enough annual funding to be replaced at the appropriate time. Table 13 lists those items and the additional resources needed to meet the proper replacement schedule to maintain fire dispatch equipment and technology.

Table 13. *Additional Operating Costs Needed for Proper Replacement Schedule of Capital Items for ECD*

Equipment and Technology	Annual Cost
CAD Workstations	\$2,100
Replace Motorola Gold Elite Radio System with IP-Based Radio System	\$36,364
Zetron Alerting System ¹	\$6,818
Telephone System	\$57,143
Logysis CAD Software and Server	\$20,000
Total (Net Telephone System)	\$65,282

¹ The Zetron Alerting System total cost for replacement is \$150,000, but only 50% of the cost is the responsibility of the ECD.

To maintain a proper replacement schedule for capital equipment, City staff estimates that the ISF requires additional funding of about \$65,282 annually. Once the replacement schedule is back on track, this will ensure that equipment is replaced before the useful life has been exceeded.

In addition to ensuring adequate funding on an ongoing basis, additional one-time funds will be needed by 2016 to replace the Motorola Gold Elite Radio System with an IP (Internet Protocol)-based radio system. The current system is over 10 years old and in 2016 it will no longer be supported by the vendor. In addition, the Sheriff has already upgraded to an IP system and can only communicate with Stockton on one older system it left in place for that purpose. Eventually however that system will be eliminated.

The City will also need to replace the CAD workstations and telephone system in the next few years; however since the ISF is not sufficient for the replacement when these systems reach end of life status, additional one-time amounts will be needed to purchase these systems. The estimated amounts to replace these systems are listed below in Table 14.

Table 14. *One-Time Replacement Costs for Current Operations*

Equipment and Technology	Total Replacement Cost
5 CAD Workstations	\$16,665
Replacement of the Motorola Gold Elite Radio System ¹	\$350,000
Telephone System	\$200,000 to \$400,000
Total	\$566,665 to \$766,665

¹ The replacement of the Motorola Radio system is estimated to be \$50,000 per system and \$100,000 for the "switch" that allows them to communicate.

The equipment detailed above would allow Stockton to continue current operations without adding capacity.

Recommendation 1. Confirm technology replacement schedule needs and funding requirements and increase the annual allocation to the internal service fund.

Alternative Stockton Fire ECD Location

As part of our analysis, Management Partners had an opportunity to tour the new Police Dispatch Center located at the Stuart Eberhardt Building (SEB). This modern facility was in stark contrast to the existing Fire ECD in terms of ambience, layout, and functionality. While outside the scope of this analysis, there appeared to be space available to house the Fire ECD in an alternative location which would provide a much better environment for fire dispatch employees as well as opportunities for cross-training, and efficiencies regarding initial call-taking and supervisory oversight. If the Police Department agreed that space was indeed available and there were efficiencies to be achieved, the capital costs for moving the Stockton ECD to this facility would need to be analyzed and estimated. This would likely also have to include the cost of maintaining a secondary emergency operations back-up center at Fire Station 1.

Recommendation 2. Analyze the costs and benefits of moving the Fire ECD to the Police Dispatch Center in conjunction with any steps to implement a regional fire dispatch operation.

Implications for Regional Fire Dispatch

While the ECD must invest an additional \$65,282 annually (Table 13) to keep up with the replacement schedule, any plans for further regionalization will require an investment of \$670,000 to \$870,000 to purchase the necessary equipment needed to handle the increased call volume and service area.

Table 15 lists the immediate capital needs and associated costs necessary to support regional fire dispatch services, as provided by Stockton staff.

Table 15. *Capital Equipment Replacement Needs Prior to Expanding Dispatch Services*

Equipment and Technology	Total Replacement Cost
Seven CAD Workstations	\$20,000
Replacement of the Motorola Gold Elite Radio System ¹	\$450,000
Telephone System	\$200,000 to \$400,000
Total	\$670,000 to \$870,000

¹ The replacement of the Motorola Radio system is estimated to be \$50,000 per system and \$100,000 for the "switch" that allows them to communicate.

This amount of up-front funding will be hard to find within the current Stockton budget environment and may present a significant obstacle to pursuing a regional fire dispatch JPA with services provided by the Stockton ECD. However, if funding can be obtained, the agencies joining the JPA should share in the cost based on their respected workload (call volume). This would reduce the overall burden on Stockton's General Fund to meet these needs.

Recommendation 3. Develop a detailed regional fire dispatch technology needs assessment and funding plan prior to entering into discussions with potential JPA member agencies.

Radios and Connectivity

Another challenge to establishing Stockton ECD as a regional fire dispatch operator involves radios and information connectivity. While Lodi's Fire Department has their own radios, Tracy would need to return their radios to JRUG as JRUG owns this equipment. The number of radios needed and the cost of each radio is unknown as it was beyond the scope of this analysis.

In addition to radios, direct internet connectivity between Stockton's ECD and additional fire stations would need to be established. These connections allow the secure transmission of CAD and reporting data between the dispatch center and each fire station. This additional cost would also need to be analyzed and verified for each station before offering services beyond Stockton's current ECD members.

Recommendation 4. Conduct an inventory of radio and connectivity requirements to enable Stockton ECD to service as a regional dispatch center. Assistance from potential JPA member agencies will be required to do so.

Recommendations two and three would only be initiated if the City of Stockton receives sufficient interest and support for leading a regional dispatch model governed by a JPA in which Stockton ECD would provide fire dispatch services.

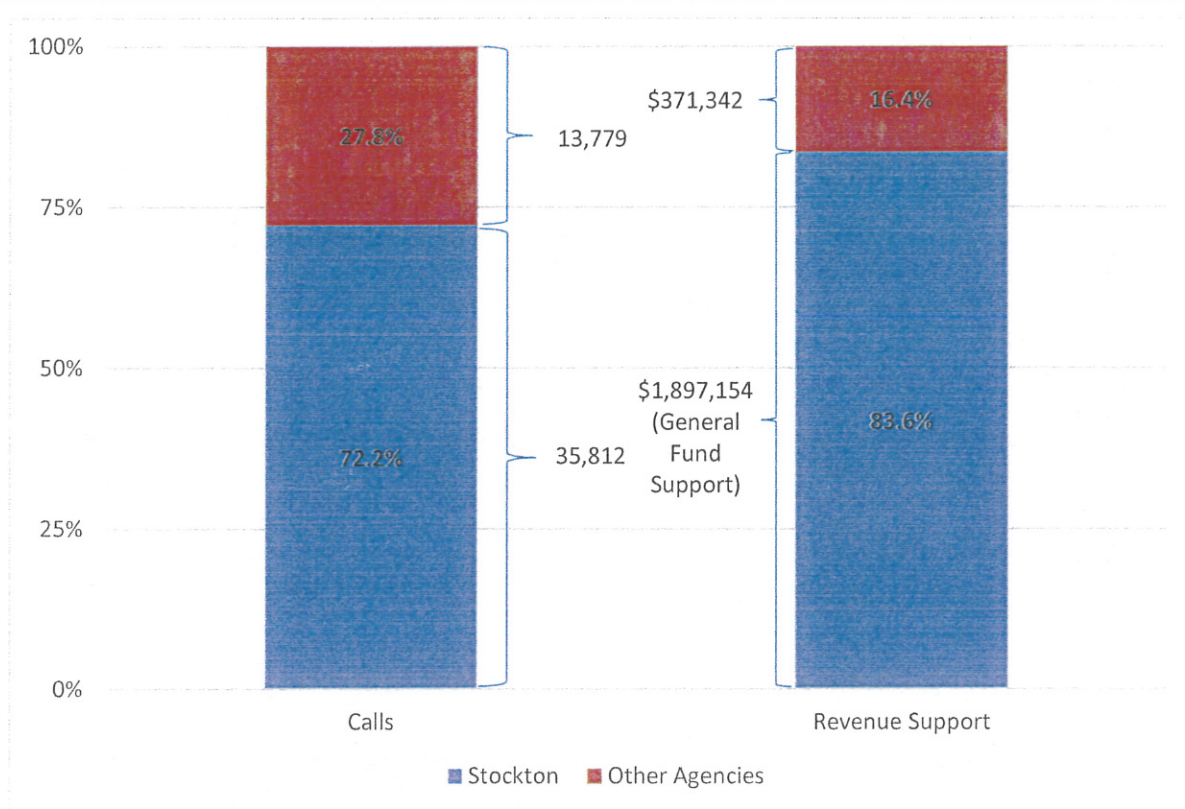
Alternative Fire Dispatch Options

The following describes the staffing implications and operating costs for each alternative fire dispatch option. Each option where the Stockton ECD provides the fire dispatch assumes the additional operating cost required to sustain an appropriate capital replacement plan. However, capital equipment replacement costs of between \$620,000 and \$820,000 are not included and would need to be addressed for any expanded regional fire dispatch operation to be provided by Stockton ECD.

Option 1: Existing Stockton ECD Semi-Regional Dispatch with Full Cost Recovery from Contract Agencies

Stockton charges \$10.75 for medical related fire calls and \$21.49 for non-medical related fire calls. However, because Stockton's estimated cost per call is much higher than it charges its contract agencies, the Stockton ECD is not capturing the full cost of providing dispatch services. Therefore the balance of the cost is borne by Stockton's General Fund. Figure 1 illustrates this trend.

Figure 1. Percent of Calls vs. Revenue Support for Stockton ECD



The City of Stockton's 35,812 calls account for 72.2% of the ECD's workload but the General Fund supports 83.6% of its operations. Conversely, contract districts make up almost 28% of the call workload but as a whole only contribute \$371,342, or approximately 16% of expenditures.

Option 1 assumes that Stockton's ECD continues to provide dispatch services to the City of Stockton, the Stockton Municipal Utilities Department, the City of Manteca, Boggs Tract Fire Protection District, Eastside Rural County Fire Protection District, Lincoln Fire Protection District, and Tuxedo-Country Club Fire District. However, it includes increased revenue as a result of increasing contract costs to contract agencies for their fair share of providing fire dispatch services, based on call volume. Table 16 provides the improved operational cost recovery that Stockton might expect from this strategy.

Table 16. *Current Operations Compared with Option 1 (Existing Stockton ECD Semi-Regional Dispatch with Full Cost Recovery from Contract Agencies)*

	Current Operations	Option 1	Estimated Net Change from Current General Fund Support
Operating Budget	\$2,268,496	\$2,333,778	\$65,282
Call Volume	49,591	49,591	0
Cost per Call	\$45.74	\$47.06	\$1.32
FTEs	14	14	0
Charge per Call	\$10.75 Medical \$21.49 Non-Medical	\$47.06	\$30.94 ¹
Revenue	\$371,342	\$648,440 ²	\$277,098
General Fund Support	\$1,897,154	\$1,685,338	(\$211,816)
Performance	93.9% of emergency alarms processed within 60 seconds 97.3% of emergency alarms processed within 90 seconds	No Change	No Change

¹ This is the difference between the average of the current medical and non-medical charges (\$16.12) and the new rate of \$47.06.

² The revenue is calculated by multiplying the contract agencies call volume (excluding Stockton) by the cost per call. Stockton's contribution is captured by General Fund support.

If Stockton were to charge one flat rate per call and increase charges to cover the full cost of providing Fire dispatch services to its current contract agencies, the cost for most participants would increase. Table 17 illustrates the differences in costs for each participant under Option 1.

Table 17. *Changes in Cost for Each Participant Under Option 1*

Agency	Annual Call Volumes	FY 2012-13 Fire Dispatch Cost ¹	Option 1 Cost ²	Annual Cost Difference	% Change
City of Stockton	35,812	\$1,897,154	\$1,685,338	(\$211,816)	-11%
City of Manteca	5,727	\$80,622	\$269,513	\$188,891	234%
Stockton Municipal Utilities Department (MUD)	3,935	\$84,715	\$185,181	\$100,466	119%
Eastside Rural County Fire Protection District	2,379	\$88,279	\$111,956	\$23,677	27%
Tuxedo-Country Club Fire District	842	\$46,235	\$39,625	(\$6,610)	-14%
Lincoln Fire Protection District	819	\$69,583	\$38,542	(\$31,041)	-45%
Boggs Tract Fire Protection District	77	\$1,907	\$3,624	\$1,717	90%

¹ Current costs are based on the FY 2012-13 City of Stockton General Fund support for the Stockton ECD and unaudited revenues from the contract agencies.

² Option 1 Costs are based on a charge of \$47.06 per call.

Costs for most participants would increase as a result of a change in the formula for assessing the service or a transition to a cost per call formula. The City of Stockton would see a decrease in operational costs because the cost for providing the service to other contract agencies would be based on full cost recovery. The changes for the four fire protection districts currently under contract with the City of Stockton (Eastside, Tuxedo-Country Club, Lincoln and Boggs Tract) vary widely. This is because their current service costs are based on a formula that includes gross taxable property value and does not take into account actual service levels. Changing to a cost formula that only accounts for service level and not property values will affect each district differently (as seen above in Table 17).

The costs for the City of Manteca and the Municipal Utilities District vary greatly. Stockton currently charges two different rates for medical and non-medical calls and the mix of medical and non-medical calls for these agencies is significantly different.

Benefits of Option 1

- Retains local control over fire dispatch service and performance standards within the City of Stockton.
- Increases operational revenue to offset ongoing costs.

Challenges of Option 1

- Does not reduce Stockton ECD operating costs significantly.
- Contract agencies may not agree to increase costs.
- Does not support a complete regional governance model for fire dispatch services in San Joaquin County which likely leads to innovation, efficiencies and cost avoidance over the long term.
- To increase current member fire protection districts' cost per call would require an evaluation of current contract parameters and a renegotiation of the fee. Each agreement currently stipulates that fire protection services will be rendered indefinitely until either party, with or without cause, terminates the contract by providing a five-year notice. Without negotiating a new fee for fire dispatch, Stockton ECD will not be able to recover full cost recovery from these fire protection districts for another five years, pending official notice.

Recommendation 5. Meet with current Stockton ECD contract agencies to develop a plan for increasing call rates to ensure full cost recovery for the services

provided. Prior to meeting, call volume numbers should be confirmed.

Option 2: New Semi-Regional Fire Dispatch JPA (existing Stockton ECD contract agencies plus the cities of Tracy and Lodi) under contract with Stockton ECD for Fire Dispatch Services

Option 2 provides a scenario where Stockton ECD would provide fire dispatch services through a JPA to its existing contract agencies as well as the cities of Tracy and Lodi. If a change in fire dispatch operations were to be pursued, both the cities of Tracy and Lodi indicated a preference to contract with a JPA where Stockton ECD provided fire dispatch services over contracting with JRUG, even at an increased cost. Both cities indicated that the governance and cost structure (including operations and capital), as well as performance standards would have to be acceptable before considering such an option.

The City of Tracy currently is a member of JRUG and receives EMS and fire dispatch services through its private operator, AMR/LifeCom. While AMR maintains a contract with JRUG until May 1, 2015 to provide fire and EMS dispatching for its member agencies, the City of Tracy retains the right to withdraw membership from JRUG at the end of any fiscal year so long as it provides written notice of its intentions to terminate to the JRUG Board no later than December 31 prior to the termination of the fiscal year in which the City intends to withdraw.

The City of Lodi is the only municipality in which fire calls are dispatched by its police department. Due to a settlement agreement between the cities of Stockton, Lodi and the County Emergency Medical Services Agency (EMS), the City of Lodi is not permitted to directly contract with Stockton for fire dispatch services; however, Lodi indicated it would be open, and permissible for them to consider joining a regional JPA for fire dispatch provided by Stockton.

Based on the current cost structure provided by LifeCom and relative satisfaction of the smaller fire districts with the service provided (although no survey was conducted of all the member agencies), it is unlikely that any of the other agencies would consider a change in fire call handling before a new contract for EMS and fire dispatch services is bid by San Joaquin County in 2015 for the current contract (which expires in 2016).

Call Volumes, Staffing and Budget

Should a JPA be created and Lodi and Tracy join, call volume will increase. In order to handle this increase, ECD's staffing and expenditures are expected to increase as well. Expected call volumes are listed in Table 18.

Table 18. *Changes in Call Volumes between Current Operations and Option 2*

Agency	Total Call Volume ¹
Stockton ECD	
Stockton Fire	35,812
Current Contract Agencies	13,779
Total Current Stockton ECD	49,591
Semi-Regional Fire Dispatch	
Stockton Fire	35,812
Current Contract Agencies	13,779
Tracy	5,946
Lodi	5,946
Option 2 Total Call Volume	61,483
% increase from Current Operations	24%

¹ Call volumes for Stockton, current contract agencies and Lodi are based on FY 2012-13 actual call volumes. Tracy's call volume is based on the average used by JRUG to determine costs.

To handle the increased call volume, Management Partners estimates an increase of three Telecommunicator I position will be needed (from 14 to 17). This is a 21% increase, corresponding to a 24% increase in workload. Adding staff is needed to remain at current performance levels while handling the increased volume of work.

In addition to increased staffing to handle fire call taking, Management Partners believes that additional Fire Department staff time would need to be allocated to the administration of a new regional fire dispatch JPA. For estimating purposes, we have added additional personnel costs for a half-time administrative analyst and 20% of a deputy chief. The breakdown in expected increased costs is provided in Table 19.

Table 19. *Expected Annual Expenditures for Option 2*

Item	Amount
Current Operating Budget	\$2,268,496
Increase for Capital Replacement Program	\$65,282
Part Time Administrative Analyst ¹	\$31,955
20% of Deputy Fire Chief ¹	\$30,573
3 Telecommunicator I ¹	\$176,505
Total	\$2,572,811

¹ Personnel costs include salaries and benefits at the entry level for new employees

Option 2 Estimated Costs and Revenues

If Stockton were to provide semi-regional fire dispatch through a JPA, the JPA should charge members the full cost of providing the service. This would reduce the Stockton General Fund burden for fire dispatch by having members pay for full cost recovery and by increasing the economies of scale. The differences between Stockton's current ECD operations and Option 2 are listed in Table 20.

Table 20. *Current Stockton ECD Operations Compared with Option 2 (New Expanded Semi-Regional Fire Dispatch JPA Under Contract with Stockton ECD (with the addition of the Cities of Tracy and Lodi))*

	Current Stockton ECD Operations	Option 2	Estimated Net Change from Current General Fund Support
Stockton ECD Operating Budget	\$2,268,496	\$2,572,811	\$304,315
Call Volume	49,591	61,483	11,892
Cost per Call	\$45.74	\$41.85	(\$3.89)
FTEs	14	17	3
Charge per call	\$10.75 Medical \$21.49 Non-Medical	\$41.85	\$25.73 ¹
Revenue	\$371,342	\$1,074,331 ²	\$702,989
General Fund Support	\$1,897,154	\$1,498,480	(\$398,674)
Performance	93.9% of emergency alarms processed within 60 seconds 97.3% of emergency alarms processed within 90 seconds	No Change	No Change

¹ The difference in charge per call is calculated by subtracting the average cost per call for current operations (\$16.12) from the Option 2 cost per call.

² Revenue is calculated by multiplying contract agencies call volume (excluding Stockton) by the cost per call. Stockton's costs are captured through General Fund support.

By creating a semi-regional JPA and providing additional fire dispatch services to Lodi and Tracy, Stockton can expect to lower general fund support by \$398,674. This assumes that all jurisdictions in the JPA (including Stockton) pay the full cost of services (estimated to be \$41.85 per call). The cost of service and call volume should be recalculated every year to ensure equitable contributions by all members.

Increasing the charge per call to cover all expenditures for a new JPA would increase costs for most participants. Table 21 illustrates the changes between current costs and expected costs for Option 2.

Table 21. *Changes in Estimated Participant Costs Under Option 2*

Agency	Call Volumes	Current Cost for Fire Dispatch ¹	Option 2 Cost ²	Difference	% Change
City of Stockton	35,812	\$1,897,154	\$1,498,480	(\$398,674)	-21%
Lodi	5,946	N/A	\$248,840	N/A	N/A
Tracy	5,946	\$115,512	\$248,840	\$133,328	115%
City of Manteca	5,727	\$80,622	\$239,675	\$159,053	197%
Stockton Municipal Utilities Department	3,935	\$84,715	\$164,680	\$79,965	94%
Eastside Rural County Fire Protection District	2,379	\$88,279	\$99,561	\$11,282	13%
Tuxedo-Country Club Fire District	842	\$46,235	\$35,238	(\$10,997)	-24%
Lincoln Fire Protection District	819	\$69,583	\$34,275	(\$35,308)	-51%
Boggs Tract Fire Protection District	77	\$1,907	\$3,222	\$1,315	69%

¹ Current Costs are based on the following. For City of Stockton: the General Fund Support. For the City of Lodi: current costs were not vetted. For the City of Tracy: FY12-13 budget information from JRUG. For all other agencies: FY 12-13 unaudited revenue for Stockton ECD.

² Option 2 Costs are based on a charge of \$41.85 per call.

Again, as in Option 1, costs for most participants would increase as a result of a change in the formula for assessing the service or a transition to a cost per call formula. The City of Stockton would see a decrease in operational costs because the cost for providing the service to other contract agencies would be based on full cost recovery. The changes for the four fire protection districts currently under contract with the City of Stockton (Eastside, Tuxedo-Country Club, Lincoln and Boggs Tract) vary widely. This is because their current service costs are based on a formula that includes gross taxable property value and does not take into account actual service levels. Changing to a cost formula that only accounts for service level and not property values will affect each district differently (as seen in Table 17).

The costs for the City of Manteca and the Municipal Utilities District vary greatly. Stockton currently charges two different rates for medical and non-medical calls and the mix of medical and non-medical calls for these agencies is significantly different.

There is some indication that the Lathrop-Manteca Fire Protection District may be interested in joining a new regional fire dispatch JPA; however this was not confirmed during our analysis. If this district were to join in Option 2, the estimated net reduction in current General Fund support would be \$411,511 (rather than the \$398,674 indicated in Table 20). This is due to additional economies of scale.

Benefits of Option 2:

- Supports a regional fire dispatch approach in San Joaquin County.
- Measurable performance fire call handling standards would encourage accountability to member agencies.
- Greater transparency regarding operating costs for providing fire dispatch services.
- Opportunities for existing and new member agencies to ensure performance and cost transparency through an appropriate JPA governance structure.
- Reduces Stockton General Fund allocation to Stockton ECD.

Challenges of Option 2:

- Stockton General Fund offset is good, but not great.
- Stockton would have to make an investment in technology and capital equipment improvements of about \$720,000.
- Does not achieve the economies of scale that might be available with a full regional fire dispatch operation within San Joaquin County.
- Existing and prospective member agencies would have to agree to a fairly significant cost increase in fire dispatch service costs.
- New JPA member costs will still likely be higher than those provided by LifeCom should they win the bid for a new contract in 2016.
- Unknown costs for radios and information connectivity (see discussion above).

Option 3: New Regional Fire Dispatch JPA (Stockton ECD and All County Fire Agencies)

During interviews with stakeholders it became clear that while some agencies would be open to new options for fire dispatch, others may be happy with the service provided by LifeCom (through JRUG) and may not consider moving to another JPA. Nonetheless, Management Partners also recognizes the potential for all public agencies to collaborate on behalf of good governance and efficiency and thought it important to provide a threshold analysis of an option which has Stockton ECD providing fire call handling services to all fire agencies in the County. Option 3 seeks to achieve the costs of including all fire agencies in the county in a JPA that would contract with the City of Stockton ECD for fire call handling dispatch services.

LifeCom (AMR) currently holds a contract to provide fire and EMS dispatch services for JRUG until May 1, 2015, with the option of two one-year renewals. If all fire agencies in the county were to form a regional JPA for fire call handling dispatch, it would require JRUG not renew its contract with LifeCom in 2015, dissolve the JRUG JPA, and then join the new regional fire dispatch JPA under contract with Stockton ECD for fire dispatch services.

Call Volumes, Staffing and Budget

Should a new JPA be created and all fire agencies in San Joaquin County join, call volume, staffing, and costs will increase. Capital costs would also increase; however, these are the same as in Option 2 and are not detailed again here. Expected call volumes for Option 3 are shown in Table 22.

Table 22. *Changes in Call Volumes Between Current Operations and Option 3*

Agency	Total Call Volume ¹
Current Operations	
Stockton Fire	35,812
Current Contract Agencies ²	13,779
Total Current Operations	49,591
Option 3	
Stockton Fire	35,812
Current Contract Agencies ²	13,779
Tracy	5,946
Lodi	5,946

Agency	Total Call Volume ¹
All Other JRUG Agencies	17,508
Option 3 Total Call Volume	78,991
Percent increase from Current Operations	59%

¹ Call volumes for Stockton, Current Contract Agencies and Lodi are based on FY 2012-13 actual call volumes. Tracy's and All Other JRUG Agencies' call volumes are based on the average used by JRUG to determine costs.

² Current Contract Agencies include calls for Manteca, Stockton Municipal Utilities District, Boggs Tract Fire Protection District, Eastside Rural County Fire Protection District, Lincoln Fire Protection District, and Tuxedo-Country Club Fire Districts.

In order to handle the increased call volume, Management Partners estimates a needed increase of eight Telecommunicator I positions from 14 to 22. This is a 57% increase, corresponding to a 59% increase in workload. Adding staff is needed to remain at current performance levels while handling the increased volume of work.

In addition to increased staffing needed to handle call taking, Management Partners also added an increase in annual expenditures for administrative support of a JPA similar to Option 2. The breakdown in expected increased funding is provided in Table 23.

Table 23. Expected Annual Expenditures for Regional Fire Dispatch Services

Item	Amount
Current Operating Budget	\$2,268,496
Increase for Capital Replacement Program	\$65,282
Part Time Administrative Analyst ¹	\$31,955
20% of Deputy Fire Chief ¹	\$30,573
Eight Telecommunicator I ¹	\$470,679
Total	\$2,866,985

¹ Personnel costs include salaries and benefits at the entry level for new employees

Option 3 Revenues and Expenditures

If Stockton were to provide regional fire dispatch under contract with a JPA, the JPA should charge members the full cost of providing the service. This has the effect of reducing the General Fund burden for fire dispatch by having members pay for full cost recovery and by increasing the economies of scale. The differences between Stockton's current operations and Option 3 are listed in Table 24.

Table 24. *Current Operations Compared with Option 3 (Regional Fire Dispatch JPA – All County Agencies)*

	Current Operations	Option 3	Estimated Net Change from Current General Fund Support
Operating Budget	\$2,268,496	\$2,866,985	\$598,489
Call Volume	49,591	78,991	29,400
Cost per Call	\$45.74	\$36.30	(\$9.44)
FTEs	14	22	8
Charge per Call	\$10.75 Medical \$21.49 Non-Medical	\$36.30	\$20.18
Revenue	\$371,342	\$1,567,398 ²	\$1,196,056
General Fund Support	\$1,897,154	\$1,299,587	(\$597,567)
Performance	93.9% of emergency alarms processed within 60 seconds 97.3% of emergency alarms processed within 90 seconds	No Change	No Change

¹The difference in charge per call is calculated by subtracting the average cost per call for current operations (\$16.12) from the Option 3 cost per call.

² Revenue is calculated by multiplying contract agencies call volume (excluding Stockton) by the cost per call. Stockton's costs are captured through General Fund support.

By creating a regional JPA and providing fire dispatch services to all San Joaquin County fire agencies, Stockton can expect to reduce General Fund support by almost \$600,000. This assumes that all the member JPA agencies (including Stockton) would pay the full cost of services estimated to be \$36.30 per call. The cost of service and call volume should be recalculated every year to ensure equitable contributions by all members.

Increasing the charge per call to cover all expenditures for a new regional JPA would increase costs for most participants, albeit to a lesser extent than in options one and two. Table 25 illustrates the changes between current costs and expected costs for Option 3 for all participants.

Table 25. *Change in Estimated Participant Costs Under Option 3*

Agency	Call Volumes	Current Cost for Fire Dispatch ¹	Option 3 Cost ²	Difference	% Change
City of Stockton	35,812	\$1,897,154	\$1,299,587	(\$597,567)	-31%
City of Lodi	5,946	N/A	\$215,840	N/A	N/A
City of Tracy	5,946	\$115,512	\$215,840	\$100,328	87%
Manteca Ambulance	5,855	\$93,387	\$212,537	\$119,149	128%
City of Manteca	5,727	\$80,622	\$207,890	\$127,268	158%
Stockton Municipal Utilities Department	3,935	\$84,715	\$142,841	\$58,126	69%
Eastside Rural County Fire Protection District	2,379	\$88,279	\$86,358	\$(1,921)	-2%
Ripon Consolidated Fire Protection District	2,156	\$42,217	\$78,263	\$36,046	85%
Lathrop-Manteca Fire Protection District	1,957	\$37,489	\$71,039	\$33,551	89%
Waterloo-Morada Rural County Fire Protection District	1,568	\$29,017	\$56,918	\$27,901	96%
Woodbridge Rural County Fire Protection District	1,288	\$25,044	\$46,754	\$21,710	87%
Escalon Consolidated Fire Protection District	1,016	\$18,735	\$36,881	\$18,146	97%
French Camp-McKinley Fire Protection District	962	\$17,742	\$34,921	\$17,179	97%
Tuxedo-Country Club Fire District	842	\$46,235	\$30,565	(\$15,670)	-34%
Lincoln Fire Protection District	819	\$69,583	\$29,730	(\$39,853)	-57%
Montezuma Fire Protection District	638	\$12,081	\$23,159	\$11,078	92%
Linden-Peters Rural County Fire Protection District	531	\$10,364	\$19,275	\$8,912	86%
Mokelumne Rural County Fire District	495	\$9,275	\$17,969	\$8,694	94%
Thornton Rural Fire Protection District	347	\$6,805	\$12,596	\$5,791	85%
Liberty Rural County Fire Protection District	229	\$4,310	\$8,313	\$4,003	93%
Farmington Fire Protection District	198	\$3,848	\$7,187	\$3,339	87%
Clements Rural Fire Protection District	185	\$3,476	\$6,716	\$3,239	93%
Collegeville Rural Fire Protection District	83	\$1,663	\$3,013	\$1,350	81%
Boggs Tract Fire Protection District	77	\$1,907	\$2,795	\$888	47%

¹ Current Costs are based on the following. For City of Stockton: the General Fund Support. For agencies to whom Stockton provides fire dispatch: FY 12-13 unaudited revenue for Stockton ECD. For the City of Lodi: current costs were not vetted. For agencies in JRUG: FY12-13 budget information from JRUG.

² Option 2 Costs are based on a charge of \$36.30 per call.

Again, as in Options 1 and 2, costs for most participants would increase as a result of a change in the formula for assessing the service or a transition to an actual cost per call formula. For current JRUG members, the cost per call would increase substantially because the costs of fire dispatch would no longer be offset by EMS calls as it is under the current

LifeCom contract. The City of Stockton would see a decrease in operational costs because the cost for providing the service to other contract agencies would be based on full cost recovery. The changes for the four fire protection districts currently under contract with the City of Stockton (Eastside, Tuxedo-Country Club, Lincoln and Boggs Tract) vary widely. This is because their current service costs are based on a formula that includes gross taxable property value and does not take into account actual service levels. Changing to a cost formula that only accounts for service level and not property values will affect each district differently (as seen above in Table 17).

The costs for the City of Manteca and the Municipal Utilities District vary greatly. Stockton currently charges two different rates for medical and non-medical calls and the mix of medical and non-medical calls for these agencies is significantly different.

Benefits of Options 3:

- Supports a full regional fire dispatch approach in San Joaquin County.
- Stockton General Fund offset to fire dispatch is significant.
- Measurable performance fire call handling standards would encourage accountability to member agencies.
- Greater transparency regarding operating costs for providing fire dispatch services.
- Opportunities for existing and new member agencies to ensure performance and cost transparency through an appropriate JPA governance structure.
- Reduces Stockton General Fund support to Stockton ECD.

Challenges of Option 3:

- Stockton would have to make an investment in technology and capital equipment improvements of about \$720,000.
- Does not achieve the economies of scale that might be available with a full regional fire dispatch operation within San Joaquin County.
- Existing and prospective member agencies would have to agree to a significant cost increase in fire dispatch service costs.
- New JPA member costs will still likely be higher than those provided by LifeCom should they win the bid for a new contract in 2016.

- Unknown costs regarding radios and information connectivity (see discussion above).

Recommendation 6. Survey potential members of a regional fire dispatch joint powers authority (JPA) to determine cost and performance objectives that would need to be achieved to contract with Stockton ECD as the provider of fire dispatch operations.

Option 4: Fire Dispatch Services Provided Under Contract with JRUG

Options 1 through 3 focused on Stockton maintaining the ECD either at current service levels or with opportunities for expansion throughout the county to achieve greater efficiencies. Option 4 assumes that Stockton eliminates its dispatch center, joins JRUG and contracts for fire dispatch services through LifeCom. JRUG may accept new member agencies at any time with the approval of a majority vote from the Board.

Should Stockton join JRUG it will no longer provide dispatch services to its current contract agencies. Under this scenario, the City of Manteca may have to join JRUG as well and pay them directly for fire dispatch services. However, the fire districts that have a contract with Stockton to provide fire dispatch services would likely continue to pay Stockton for these services as a pass-through to JRUG. MUD dispatch would likely transition to the Stockton Police Dispatch center for service.

With Option 4, all operating expenditures could be eliminated and costs would be based on the number of calls and the cost per call negotiated by JRUG. While most capital costs will also be eliminated, a one-time expenditure of approximately \$40,000 (estimated by AMR) would be needed to connect Stockton with AMR's dispatch center in Modesto. A summary of changes between Stockton's current operations and Option 4 are listed in Table 26.

Table 26. Current Operations Compared with Option 4

	Current Operations	Option 4	Estimated Net Change from Current General Fund Support
Operating Budget	\$2,268,496	\$751,124 ¹	(\$1,517,372)
Call Volume	49,591	EMS – 28,929 Non-EMS – 6,883 Total – 35,812	(9,662)
Cost per Call	\$45.74	N/A	N/A
FTEs	14	0	(14)
Charge per Call	\$10.75 - Medical \$21.49 - Non-Medical Flat Fee: \$0	EMS: \$11.57 Fire: \$23.12 Flat Fee: \$5.00	EMS: \$0.82 Fire: \$1.63 Flat Fee: \$5.00
Revenue	\$371,342	\$78,221 ²	(\$293,121)
General Fund Support	\$1,897,154	\$672,903	(\$1,224,251)
Performance	93.9% of emergency alarms processed within 60 seconds 97.3% of emergency alarms processed within 90 seconds	Unknown	Unknown

¹ The operating budget includes per call expenditures for calls related to Stockton and the four remaining fire districts contracted with Stockton for Fire Dispatch.

² The revenue is the amount the four Stockton ECD contract agencies should pay Stockton to pass through to JRUG although this may not be possible under the current contract terms.

By joining JRUG, Stockton would save an estimated \$1,517,372 in operating costs. However, the net change to the General Fund would only be \$1,224,251 due to the loss in revenue of \$293,121 because the Stockton ECD would no longer provide fire dispatch services to MUD and the City of Manteca. As described above, while Manteca may be required to join JRUG if Stockton ECD no longer provided fire dispatch services, the remaining contract agencies would likely pay Stockton as a pass-through to JRUG for this service.

These fire districts (Eastside, Tuxedo-Country Club, Lincoln and Boggs Tract) have a contract for fire protection services with Stockton that requires a five-year notification for termination. Therefore, unless both parties agree to terminate or change the agreement voluntarily, the pass-through arrangement for dispatch services is likely to continue under this scenario in the near term.

The operating costs in Table 26 are based on the current charges per call but could increase before the current contract expires. As stated in JRUG's contract with AMR, "the above rates may be increased annually by the

amount of a 50-50 weighting of the most current U.S. Bureau of Labor Statistics' San Francisco-Oakland-San Jose, CA medical care and transportation indices, but not to exceed 4.9%."

The JRUG Executive Board has indicated a strong interest in establishing and improving fire call handling performance standards. County EMS has also expressed receptivity to including appropriate standards in any future contract. JRUG has also taken some action in the past to improve fire dispatch training and oversight. According to some member agencies, focused improvement in this area has been resisted by AMR.

It is possible that a new bid in 2015 (to become effective in 2016) by the County which again combines EMS and fire dispatch services will provide strengthened parameters in this area for any successful bidder to meet in order to win the award. If so, costs would likely and appropriately increase. Regardless, no formal standards have been established and while Management Partners recognizes that fire call handling response times are complex to measure, performance goes beyond response times. Performance also includes ongoing fire dispatch training and experience sufficient to meet the fire dispatching needs of all member agencies, including those in more urban environments.

JRUG currently stipulates in its joint powers agreement that the Board of Directors shall consist of one representative from each member agency, with each director possessing one vote. Management Partners understands this governance structure may not be desirable to Stockton as their call volume and subsequent contribution to the budget would far exceed that of any current JRUG member agency, yet the City would have no more influence in ensuring performance standards than any other member agency.

Benefits of Option 4:

- Significant operating cost reduction to the City of Stockton General Fund.
- The potential for a true regional fire dispatch model, should Stockton ECD member agencies follow and join JRUG.
- Significant one-time and ongoing cost avoidance by no longer having to purchase \$620,000 to \$820,000 worth of capital equipment to continue or enhance operations.

Challenges of Option 4:

- Potentially significant dissatisfaction from current Stockton ECD member agencies.

- Fire call handling response performance standards and costs which may or may not be able to be provided or met under existing contracts with Stockton ECD members.
- Loss of local control over fire call handling performance standards and dispatch, depending on the governance structure agreed upon.
- Resistance from current JRUG members to change the governance structure.
- Uncertainty regarding costs and reliability of sustaining the LifeCom facility, which is highly dependent on ambulance service and rates.

Recommendation 7. Require documentation of specific fire dispatch performance and training standards, as well as transparency and accountability regarding the role of ambulance service in offsetting fire dispatch costs prior to pursuing any membership in JRUG.

Conclusion

Until and unless there are adequate fire dispatch performance and training standards enacted by JRUG and accountable to the JRUG Board and acceptable to the urban fire dispatch community, it is unlikely that the major fire agencies in the county will transition to the current JPA. There is interest by the urban fire agencies in pursuing a regional fire dispatch operation through a JPA even at an increased cost over their current operations, perhaps under contract with Stockton ECD to provide the service. As a result of past history with the City regarding fire dispatch operations, the potential member agencies, though, would require a complete business plan that addresses cost, accountability, governance and performance before proceeding.

Attachment – Summary of Recommendations

Recommendation 1. Confirm technology replacement schedule needs and funding requirements and increase the annual allocation to the internal service fund.

Recommendation 2. Analyze the costs and benefits of moving the Fire ECD to the Police Dispatch Center in conjunction with any steps to implement a regional fire dispatch operation.

Recommendation 3. ... Develop a detailed regional fire dispatch technology needs assessment and funding plan prior to entering into discussions with potential JPA member agencies.

Recommendation 4. .. Conduct an inventory of radio and connectivity requirements to enable Stockton ECD to service as a regional dispatch center.

Recommendation 5. ..Meet with current Stockton ECD contract agencies to develop a plan for increasing call rates to ensure full cost recovery for the services provided.

Recommendation 6. Survey potential members of a regional fire dispatch joint powers authority (JPA) to determine cost and performance objectives that would need to be achieved to contract with Stockton ECD as the provider of fire dispatch operations.

Recommendation 7. Require documentation of specific fire dispatch performance and training standards, as well as transparency and accountability regarding the role of ambulance service in offsetting fire dispatch costs prior to pursuing any membership in JRUG.