

Distributed on:
APR 22 2014
City Manager's Office

Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Ruben Torres

SUBJECT: SAN JOSE FIRE DEPARTMENT
RESPONSE TIMES INITIAL
ANALYSIS

DATE: April 21, 2014

Approved

Date

4/22/14

INFORMATION

The purpose of this memorandum is to provide the City Council with 1) updated and verified information regarding current and past City and County EMS response time performance; 2) information regarding identified deficiencies in emergency response time performance and to inform the City Council of actions for improvement that have already been taken; 3) information regarding a recently conducted third party audit of the City's response time reporting process and data; and 4) information regarding future actions that will be implemented by the Fire Department to further improve response time performance to the community.

BACKGROUND

As memorialized in a January 4, 2013, memorandum from prior San José Fire Chief, William McDonald, in late 2012/early 2013, the Fire Department became aware that emergency response time measures had been inconsistently reported relative to established standards and were potentially inaccurate. In early 2013, the Department notified the County Emergency Medical Services Agency (EMS) that EMS response times reported, pursuant to the terms of the 911 Emergency Medical Services Provider Agreement, were potentially inaccurate. Upon making this discovery, prior Fire Chief William McDonald took immediate steps to understand and correct how the Fire Department's data system captured the information and update the methodology the Fire Department was using. (See January 4, 2013, memorandum from Fire Chief William McDonald to the San José City Council; and January 15, 2013, letter from San José Fire Chief William McDonald to EMS Agency Director, Michael Petrie, both attached for reference – Attachments A and B.)

As noted in a March 14, 2014, memorandum to the City Council, the Fire Department discovered that due to an incorrect application of the reporting methodology to the data captured from the Computer Aided Dispatch (CAD) and Firehouse Record Management System, the information provided to the County prior to November 2013, was incorrect; but since February 2012, data has been correctly entered in the City's CAD system, however, the reporting methodology had

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not been consistent with the County contract until November 2013. (See attached March 14, 2014, memorandum from Interim Fire Chief Ruben Torres – Attachment C.)

As noted in the March 14, 2014 memorandum, the Fire Department formed a working group charged with analyzing the accuracy of the information and the source of the information used to report response times. The working group has since completed a thorough analysis of the Fire Department’s response times including segmenting and quantifying response time problems. A copy of the completed Response Time Performance Initial Analysis report is attached for reference and is summarized below (Attachment D).

ANALYSIS

Summary of San José Fire Department Response Time Performance Initial Analysis Report

The Response Time Performance Initial Analysis determined that between July 1, 2012 and June 30, 2013 (FY 2012-2013), the San José Fire Department responded to over 77,400 incidents. (The number of incidents is not to be confused with the number of unit responses, which exceed 100,000. This is because an incident may require the response of more than one unit, but only one incident number is generated.)

For FY 2012-2013, the Department achieved the San José City response time objective for Priority 1 calls (less than 8 minutes 80% of the time) 71.7% of the time. Priority 1 calls are defined as emergencies requiring red lights and siren. For FY 2012-2013, the Department achieved the San José City response time objective for Priority 2 calls (less than 13 minutes 80% of the time) 83.9% of the time. Priority 2 calls are defined as emergencies not requiring red lights and siren.

City Response Times : 8 Min Compliance for the Priority 1 Incidents

2012							
Months							
8 min Compliance	Jul	Aug	Sep	Oct	Nov	Dec	
	66.73	75.61	71.60	71.92	70.09	71.27	

2013												
Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8 min Compliance	70.41	72.87	74.89	73.23	70.06	71.08	69.03	69.34	67.09	67.69	68.68	58.17

2014			
Months	Jan	Feb	Mar
8 min Compliance	58.03	61.33	68.96

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While the Response Time Performance Initial Analysis report focused on performance against City response time requirements, the table on the following page compares validated calculations of County response times compared to what had been previously reported for the same period.

County EMS Response Times : 8 Min Compliance for the Code 3 (Priority 1) Incidents

2012							
Month	Jul	Aug	Sep	Oct	Nov	Dec	
Previously Reported	90.11	91.67	90.96	89.01	87.61	87.44	
EMS Compliance	93.11	94.25	90.96	89.14	87.86	88.18	

2013												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Previously Reported	88.14	88.60	89.39	89.52	87.32	88.54	89.19	88.37	86.32	86.89	83.87	83.87
EMS Compliance	88.99	88.33	89.62	89.52	87.95	88.54	87.62	94.91	89.95	85.23	85.26	85.32

2014			
Month	Jan	Feb	Mar
Previously Reported	88.06	87.66	
EMS Compliance	88.05	87.68	88.75

In addition to the overall response time information reported above, the analysis of the Fire Department's response times included segmenting incidents into Alarm Processing Time, Turnout Time, and Travel Time; reviewing performance across various parameters including time of day, incident type, area, etc.; and identifying opportunities for improving response times. The following chart shows the response time goals of the National Fire Protection Association (NFPA), the San José Fire Department, and the County EMS Contract as well as the Department's performance for FY 2012-2013.

NFPA	SJFD Standard	SJFD Performance	County EMS Contract	SJFD Performance
State of Normalcy				
Event Initiation				
Discovery of Event				
Alarm Transfer Time 30 seconds				
Alarm Answering Time 15 seconds				
Alarm Processing Time 60 seconds 80%	Dispatching Time 120 seconds, 80%*	86%		

Turnout Time 60/80 seconds 90%	Turnout Time 120 seconds, 80%*	79%	Total Response Time: <8 Min. 95%*	Range of 87.86% to 94.25%
Travel Time 240 seconds 90%	Travel Time 240 seconds, 80%*	45%		
Initiate Action / Intervention Time				
Control and Mitigate Event				
Recovery				
State of Normalcy				
Total Response Time Goal: Emergencies: <6 Minutes, 90%	*Total Response Time Goal: Priority 1: <8 Min. 80% Priority 2: <13Min. 80%	72% 84%	*Total Response Time Goal: Code 3 (Priority 1): <8 Minutes, 95% Code 2 (Priority 2): <13 Minutes, 95%	

As demonstrated in the above chart, Dispatching Time is exceeding the performance target and Turnout Time is within 1% of meeting the established performance target. The Department is undergoing a current initiative to further improve Turnout Time performance and in addition, has already implemented the following actions to help improve response time performance:

1. Reduction of the number of fire companies assigned to out-of-service training from five to three was implemented November 2, 2013.
2. Decentralization of training to minimize travel time and therefore overall out-of-service time was implemented on November 2, 2013.
3. Reduction of alarm processing time through early dispatching was implemented on March 17, 2014. This change will reduce the alarm processing (dispatching) time segment of total response time.
4. Monitoring, reporting, and measuring the performance of all dispatch times was implemented on March 17, 2014. This will also allow for measuring the effectiveness of changes made to dispatch policy.
5. Working with stakeholders on a Turnout Time Reduction Initiative Pilot Program. While reducing turnout times will not substantially increase response time performance, it could have a measurable effect on moving the Department towards its response time objectives.

The segmented analysis of Alarm Processing Time, Turnout Time, and Travel Time identified Travel Time as the primary area of concern especially as related to Priority 1 calls. The Department has a travel time objective of 4 minutes (240 seconds) 80% of the time, and, as shown in the previous chart, is only meeting that target 45% of the time. There are several factors that could potentially contribute to longer travel times such as station district size, traffic patterns, and station call volume. Of particular interest is that compliance is the lowest between the hours of 0100 (1AM) and 0700 (7AM) when, presumably, traffic is not a factor. When traffic is removed as a potential contributing factor, station district size and call volume become the primary focus.

In 2010-2011, in order to balance a significant budget shortfall in the General Fund, four Engine Companies and one Truck Company (five companies in total) were eliminated from service. The

next year, in 2011-2012, the Fire Department operated without four companies in service as the receipt of the Staffing for Adequate Fire and Emergency Response (SAFER) Grant restored 36 sworn positions which not only avoided the scheduled elimination of a fifth Engine Company, but also restored one of the eliminated Engine Companies and seven sworn positions to assist with relief staffing. Unfortunately, however, that same year, the City faced another significant General Fund shortfall and a reduction in minimum staffing overtime was implemented which resulted in the Fire Department initiating a daily Brown Out model that could reduce up to two Engine companies daily. In 2012-2013, with the receipt of a second SAFER Grant that restored an additional 27 positions, in an effort to reduce the service impacts resulting from the four company reductions and new brown-outs, the Fire Department utilized the new staffing (the equivalent of two companies) to implement an alternative deployment program (Squad Pilot Program) aimed at keeping primary resources available for Priority 1 calls. That Program is in the final stages of evaluation with a report expected to be released to the City Council next month. Any removal of emergency response resources increases the areas of coverage for the remaining units and undoubtedly has contributed to the Department's below-target performance for Travel Time which is the largest performance factor in overall response time.

Nevertheless, the Fire Department is committed to improving response times and specifically to improving Travel Time performance. To help accomplish this objective, the Department will be taking the following steps:

1. Evaluating Automatic Vehicle Location ("AVL") closest unit dispatch feasibility and efficacy.
2. Continuing to evaluate options for expanded Signal Preemption capability.
3. Developing a Standards of Coverage document that will assist in developing an intelligent growth strategy for the department.
4. Performing additional GIS/heat mapping analysis to help further identify difficult to serve response areas, call volume, population density and demand by service area.
5. Evaluating of Emergency Service Zones ("ESZ") to determine whether they are rural or suburban which effects response time standards for each zone.
6. Further analyzing late responses with regard to first due apparatus late responses vs. second due apparatus late responses and determining the causes of these late responses.

Third Party Validation of Response Time Reporting Methodology

In addition to completing the Response Time Initial Analysis, the Department sought third party verification of the response time calculation methodology used. Athena Advanced Networks (Athena) recently completed (April 7, 2014) an audit of the methodology used for response time calculations as well as the data used in the analysis. As part of this audit, Athena reviewed the Department's defined metrics on which the performance measures and standards are based, the data source used to extract appropriate data, and the analysis process used by the Department, and concluded:

“The SJFD has taken appropriate steps toward providing accurate response time calculations...”

“This new reporting methodology provides more accurate results than past practices and will go a long way to increasing confidence in this process. By employing this new methodology for assessing response time the department can focus on reviewing operations and procedures and taking steps to improve response time and services to the population they serve.”

A total of four findings and recommendations are included in the Athena Advanced Networks report that relate to enhancing the Fire Department’s reporting methodology with additional automation. Those recommendations will be primarily addressed with City Council’s consideration of budget proposals contained in both the 2014-2015 Proposed Capital and Operating Budgets.

The Athena Advanced Networks completed report is attached to this memorandum as well as a copy of their capabilities and experience (Attachment E and F).

CONCLUSION AND NEXT STEPS

The Fire Department is committed to delivering services to the community in the most timely, efficient and cost-effective manner possible. The completed Response Time Performance Initial Analysis Report serves as the starting point for further work to be done by the Department to meet the established response time objectives. As such, in addition to the actions outlined in the previous section, the Department will be considering several recommendations from the Response Time Performance Initial Analysis Report including:

1. Monitoring and recording of dispatch performance on a timely and actionable basis.
2. Exploring options to upgrade or replace the current phone system with Fire Communications to a system that enables tracking and integration of alarm answering time and alarm transfer time.
3. Continuing to work with all stakeholders on a Turnout Time Reduction Initiative Pilot Program.
4. Minimizing the number of incidents handled by second due apparatus.
5. Study the feasibility of prioritizing Unit Utilization.
6. Developing a Standards of Coverage Document.
7. Enable a process to continuously report performance metrics.
8. Exploring options to update the CAD system to assist with automation and speed of performance metric reporting.

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As part of the upcoming 2014-2015 Budget Study Sessions, on Friday, May 9, 2014, as directed by the City Council, a review and discussion of Fire Department Emergency Medical Services will take place in the City Council Chambers. The information contained in this memorandum, along with analysis regarding the Squad Pilot Program and other information, will be presented.

/s/

RUBEN TORRES, INTERIM FIRE CHIEF
San José Fire Department

For additional information, please contact Ron D'Acchioli, Deputy Director, Bureau of Administrative Services, San José Fire Department at 408-794-6953.

Attachments:

- Attachment A: Memorandum from former Fire Chief William McDonald dated January 4, 2013
- Attachment B: Letter from former Fire Chief McDonald to EMS Director Petrie dated January 15, 2013
- Attachment C: Memorandum from Interim Fire Chief Ruben Torres dated March 14, 2014
- Attachment D: San José Fire Department Response Time Performance Initial Analysis Report
- Attachment E: Athena Advanced Networks San José Fire Department Response Time Reporting Analysis Report
- Attachment F: Athena Advanced Networks Capabilities and Experience



Distributed on:

Attachment A

JAN 4 2013

City Managers

Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: William McDonald

SUBJECT: San José Fire Department
Response Time Performance
Reporting

DATE: January 4, 2013

Approved

Date

1/4/13

INFORMATION

The Fire Department's goal is to respond timely to critical emergencies, including fire and priority emergency medical calls. Specifically for San José, the first emergency response vehicle should arrive on the scene within 8 minutes, 80% of the time. The Department's response-time performance measure is the standard that was adopted by the City Council following fire service industry standards and recommendations to provide the greatest potential for the provision of excellent services and desired outcomes. The standard response time performance measure adopted by the National Fire Protection Association is for the first company to arrive at the scene of a reported emergency within 6 minutes, 90% of the time.

We recently discovered that the Department's response-time measures have been inconsistently reported since 2009. In general, some data used in the calculation of the response-time measure were excluded in error. Data from emergencies where a fire company responded to a call within its assigned area (closest neighborhood fire station) were included in the citywide response-time calculation, but data from emergencies where a fire company responded to a priority call outside of its assigned area were not. By using the correct methodology for data collection and reporting, the Fire Department expects that its overall response-time rate (percentage at which the response-time goal is achieved) will be lower than what has been reported previously. It is very important to state that even though response-time performance has been reported inconsistently during this period, our firefighters and employees have provided and continue to provide excellent emergency services to our residents and community.

The Department has researched improved methods for collecting data, and new reporting methodology will provide a more accurate measure for emergency response-times. The new reporting procedures are being implemented in January 2013. Once established, comparative data for the current fiscal year can be provided and can potentially be used to reevaluate prior years' performance in order to develop accurate historical information for better trend analysis. Additionally, the Department is continuing to research and implement opportunities to lower response-time performance.

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January 4, 2013

Subject: San Jose Fire Department Response-Time Reporting

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The Department is confident that outcomes remain very good in terms of protecting the lives and property of the community. It is also the Department's position that the response-time performance standard (arrive within 8 minutes, 80% of the time) must be maintained to continue to ensure good emergency incident outcomes. The Fire Department will continue to evaluate and implement operational improvements to achieve this response goal, and will bring forward resource recommendations to the City Council as indicated.

A full report on this issue will be delivered in January 2013, at the meeting of the Public Safety, Finance, and Strategic Support Committee.

/s/

WILLIAM MCDONALD, Fire Chief

For questions, please contact William McDonald, Fire Chief, at (408) 794-6951.





RECEIVED
SANTA CLARA COUNTY
EMS AGENCY

San José Fire Department

WILLIAM McDONALD, FIRE CHIEF

2013 JAN 23 AM 8:13

January 15, 2013

Michael Petrie
EMS Director
Santa Clara County EMS Agency
976 Lenzen Avenue, Suite 1200
San Jose, CA 95126

RE: SJFD material breach of contract

Dear Director Petrie,

San Jose Fire Department (SJFD) has received and reviewed your correspondence dated January 3, 2013 concerning SJFD's material breach of the *911 Emergency Medical Services Provider Agreement* between the County of Santa Clara and the City of San Jose (Agreement). Although SJFD recognizes that our organization is in material breach of the agreement specific to our response times (as defined in Annex B of the Agreement), SJFD has been working on changes to its processes to align more closely to the terms of the Agreement. These changes have recently been completed and tested and SJFD will begin to immediately implement the following four measures.

1. Pre-alerts for all medical events will be instituted immediately.
2. Submit updated Red Light and Siren response reports for the months of February and April 2012 using the agreed upon criteria along with exception reports which could bring SJFD into the 90% compliance.
3. On Bravo responses Code 2 (without red lights and siren):

SJFD is recommending that the unit on Bravo responses to EMS events within the City of San Jose will respond without lights and siren to the incident. All incidents shall be dispatched via an accredited ACE 911-dispatch center. SJFD recognizes that this alternative would require a change in the *911 Emergency Medical Services Provider Agreement* between all first responder agencies in Santa Clara County. SJFD is proposing a pilot program, lasting for 180-days to determine the efficacy of such a proposal.

4. On Red Light and Siren response times:
SJFD continues with its quality assurance actions to improve response times. SJFD is exploring a variety of funding sources to acquire emerging technologies to improve "turnout" times i.e. Halo systems, Black boxes, and proprietary software solutions.
5. SJFD will provide complete exception reports each month for all late responses at the end of each month when response time performance falls below 90%.

The San Jose Fire Department is confident that these adjustments to its operations will improve performance vis-à-vis the *911 Emergency Medical Services Provider Agreement* between the County of Santa Clara and the City of San Jose.

I look forward to our continued cooperation and take this opportunity to echo the same sentiments you have expressed about the close relationship being forged between our two agencies. I am confident that our partnership would continue to bring positive impacts to the residents of Santa Clara County and the City of San Jose. If there are any questions or concerns please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "William L. McDonald". The signature is fluid and cursive, with the first name "William" being the most prominent.

William L. McDonald, Fire Chief
San Jose Fire Department



Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: Ruben Torres

SUBJECT: FIRE EMS RESPONSE TIMES

DATE: March 14, 2014

Approved

Date

3/14/14

INFORMATION

The purpose of this memorandum is to provide the City Council with information related to the San José Fire Department's Emergency Medical Services (EMS) response times within Santa Clara County and its efforts to improve those response times.

BACKGROUND

The San José Fire Department (Fire Department) measures its response time performance for emergency medical calls against two standards: the City of San José performance standard and the standard required by the "911 Emergency Medical Services Provider Agreement Between the City of San José and The County of Santa Clara Emergency Medical Services Agency" (Agreement).

The City of San Jose's Standard

Per the Fire Department 2000 Strategic Plan and identified in the City's annual budget, the City's emergency response time performance standards require the Fire Department to respond to Priority 1 emergency calls¹ within 8 minutes and Priority 2 emergency calls² within 13 minutes. These performance standards apply to all incident types including, but not limited to, calls categorized as Emergency Medical Service (EMS) calls, Fire calls, Hazardous Material calls, and Rescue calls. They also apply to all calls for service handled within the City. The City's standards do not apply when the Fire Department's resources are called to respond outside the City's jurisdiction. However, they do apply to calls where the City has sub-contracted with another agency to provide emergency services as automatic aid (pre-arranged calls due to the proximity of the City's fire station to the location requiring services). The response time is measured from the time the emergency is actually reported to the 911 call taker. The call taker receives the call, confirms that the incident address is within the City's jurisdiction, and attempts to confirm that there is an emergency that requires a Fire Department resource. The response

¹ Priority 1 calls require resources to respond with lights and sirens, a licensed Paramedic, an Emergency Medical Technician (EMT) and Advanced Lifesaving Equipment.

² Priority 2 calls do not require resources to respond with lights and sirens but do require an EMT and Basic Life Support Equipment.

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time clock stops when the first Fire Department resource arrives on scene. The City's standards further require that the Fire Department meet the above times for 80% of all of its calls.

If a call is canceled while the Fire Department resource is en route (such as when a patient self- transports or when a fire alarm is reported to be a false alarm), and the performance standard time has elapsed, the response time will be reported as not meeting the City's standard. However, if the call is canceled while the Fire Department resource is en route, and the performance standard time has not elapsed, the call is not counted against the standard.

Santa Clara County Standard

Under the California Health & Safety Code, the County of Santa Clara is required and authorized to provide EMS services to its residents. On April 5, 2011, the County entered into the above-referenced Agreement with the City for the City to provide medical services for emergency calls to the County's residents.

Pursuant to the Agreement, the response time performance standards for the City to respond to EMS calls for service in the County is for the City to arrive within 8 minutes on Priority 1 EMS calls and within 13 minutes on Priority 2 EMS calls. The Agreement further requires that the City meet these standards 90% of the time. If the City meets these standards 95% of the time, it receives the total amount of the incentive stipend. Under the Agreement, EMS calls include all incidents requiring medical aid, ranging from minor incidents (such as a seizure that has already occurred) to major incidents (such as a cardiac arrest or a vehicle accident with individuals trapped inside the vehicle). The response times are measured from the time a Fire Department resource is dispatched to the time when the first Fire Department EMS resource arrives on scene.

If Fire Department resources are canceled while en route, and the performance standard time has elapsed, the incident will be reported as late. However, if Fire Department resources are canceled while en route, and the performance standard time has not elapsed, the call is not counted as either meeting the standard or not meeting the standard because it is not known whether the Fire Department would have arrived on time.

The Agreement does provide for exceptions in certain situations. For example, if there is a Second Alarm fire in a Fire Station's first due area, and then there is a medical emergency in that same area, the Fire Department's response to that medical emergency will not be subject to the 8 minute or 13 minute standard. These situations are identified manually at the end of each month, and an exemption must be requested by the City from the County EMS Agency for the City to receive the exemption and receive the incentive stipend.

EMS Response Times Reported

As memorialized in a January 4, 2013 memorandum from prior San José Fire Chief, William McDonald, in late 2012 / early 2013, the Fire Department became aware that the information being reported to the County EMS Agency, pursuant to the terms of the Agreement, was potentially inaccurate. Upon making this discovery, Chief McDonald took immediate steps to understand and correct how the Fire Department's data system captured the information and

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update the methodology the Fire Department was using. (See January 4, 2013 memorandum from Fire Chief William McDonald to the San José City Council; and, January 15, 2013 letter from San José Fire Chief William McDonald to EMS Agency Director, Michael Petrie, both attached for reference.)

Since the above communications to the Council and the County EMS Agency, the Fire Department has discovered the following:

- Due to an incorrect application of the reporting methodology to the data captured from the CAD and Firehouse Record Management System , the information provided to the County prior to November 2013 was incorrect; and
- Since February 2012, data has been correctly entered in the City's CAD system, but the reporting methodology had not been consistent with the County contract until November 2013.

In addition, the Fire Department is analyzing how incidents are actually being recorded. Currently, the performance information incorporated into the annual budget breaks down the incidents by "emergency" and "non-emergency" categories. For instance, in the 2013-2014 Adopted Budget, it was estimated that in 2012-2013 the Fire Department responded to approximately 56,050 emergency incidents. Of the total incidents, it was estimated that 53,000 were related to EMS calls. A comparison of these two numbers alone would yield a calculation that approximately 94% of the calls the Fire Department responded to were related to EMS services.

However, these totals did not include calls that were identified as non-emergency or were not categorized. Although these additional calls were ultimately categorized as non-emergency and/or not categorized, they were dispatched as emergencies and the Fire Department responded to them as emergency calls for service. To more effectively capture data regarding the resources deployed, the Fire Department is breaking down all incidents dispatched by the type of emergency found upon arrival (e.g., fire by type; rescue, hazardous materials, search and rescue, non-fire hazards; medical only; service requests; false alarms; no incident, including wrong location and canceled en route; and uncategorized). With these types of calls included, the percentage of EMS calls would be lower.

NEXT STEPS

The Fire Department continues to work towards determining the best way to capture accurate data, both for purposes of complying with the Agreement with the County and ensuring the City is delivering services to the community in the most efficient and timely manner possible.

One step the Fire Department has taken to ensure improvement in its response times is to form a working group charged with drilling down on the accuracy of the information and the source of the information. The working group has developed a work plan to perform a thorough analysis of the Fire Department's response time data with the goal of the analysis being to:

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1. Segment and quantify response time delays;
2. Identify response time delay causes;
3. Prioritize actions that may be taken to improve response times;
4. Provide data for response time continuous quality improvement(CQI); and,
5. Plan for implementation of system to provide ongoing data analysis for CQI.

In conjunction with the City's Information Technology (IT) Department, the working group has been able to calculate and verify, where possible, the accuracy of the response times that the City is required to provide for performance reporting. With that accurate data, a thorough analysis of the Fire Department's response times can be performed to segment and quantify response problems. Without a proper analysis, changes to deployment could prove to be ineffective or inconsequential. Additionally, response time data analysis will provide the tools for a response time quality improvement program.

The City's Deployment Model

Although there are no immediate or simple solutions to improving the actual time within which a unit responds to EMS calls, the Fire Department has worked with the County EMS Agency to improve its response time performance by exploring innovations in service delivery, including ways to deploy staff and equipment more effectively. (See December 9, 2013 letter from San José Deputy Fire Chief Juan Diaz, attached for reference.).

In fact, on Monday March 17, 2014, the Fire Department is implementing an "early dispatch" protocol for all EMS calls for service. Once the address and call back number have been verified by the call taker and the caller provides an indicator that medical help is needed, a medical event will be created in the City's CAD system and the dispatch will occur. If it is determined that the event requires additional Fire Department resources, those resources will subsequently be dispatched. The goal of this program is to encourage the resources to begin their turnout as soon as there is any indication of medical attention needed versus waiting for the complete picture of all services that may be required. It is anticipated that this protocol will reduce overall dispatch times for EMS services. To be sure, the Fire Department will report back to the Council at the end of their analyses more fully described below.

Working with IT and Fire Communications, the working group will continue to perform the following analyses:

1. A complete CAD export of 2 months of dispatch data (December and January) to include all units dispatched on each incident and the GPS coordinates of the incident location and each unit at the time of going en route.
2. Heat Mapping/GIS analysis of responses to identify late responses and causes.
3. Deccan/ADAM Training.
4. A thorough analysis of dispatch time, the first component of response times. This analysis will include an assessment of actual dispatch time performance against goals. A thorough analysis of "re-dispatching", where there are changes in the units assigned to an incident, either by a unit becoming available, re-trianging, or otherwise. This approach

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may result in delays caused by the first unit dispatched not necessarily being the first unit to arrive on scene.

5. A thorough analysis of turnout times, the second component of response times. This analysis will entail splitting Fire turnout times from EMS turnout times and separating 'station' turnout times from other location turnout times.
6. A thorough analysis of travel time, the final component of response times. This analysis will entail analyzing travel times from stations or other points of origin if the unit responds from another location.

The above analyses will assist in quantifying the impact of dispatch times, re-dispatching, turnout times, and travel times. They will also help highlight sources of problems, including specific stations, adopted policies, poorly covered areas, etc. In addition, the Fire Department will be engaging outside professional resources to review and validate that its data collection and reporting processes and formulas comply with industry best practices. Finally, time will be dedicated during the project to develop a more permanent process for data analysis to combine both CAD and Firehouse information points so that both initial call-taking information and what was found upon arrival is accurately represented. This data will include response time data, to reflect whether the call was held to an 8 minute or 13 minute standard, and whether it met that standard.

Discussions with the County & Open-Data

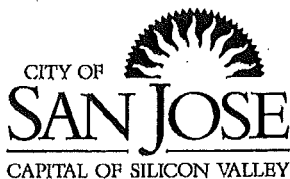
In an effort to address EMS response times in the County, the City has remained in constant contact with the County through meetings, phone calls and correspondence. City Manager staff and representatives from the Fire Department also recently appeared before the County's Health & Hospital Committee to assure the County that the partnership between the City and the County is valuable to the residents the Fire Department serves and to this end the Fire Department remains committed to supporting the County EMS Agency needs through the efficient and cost-effective use of City resources.

Finally in an effort to provide information on EMS response times to the public, the Fire Department will post its findings on the City's "Open Data" website found at data.sanjoseca.gov. As the process to validate the data being collected continues, these numbers will be updated to provide the most accurate information possible.

/s/
RUBEN TORRES
Interim Fire Chief

For questions, please contact Ron D'Acchioli, Deputy Director, Bureau of Administrative Services, San Jose Fire Department, 408-794-6953.

Attachments



Distributed on:

JAN 4 2013

City Manager's

Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: William McDonald

SUBJECT: San José Fire Department
Response Time Performance
Reporting

DATE: January 4, 2013

Approved

Date

1/4/13

INFORMATION

The Fire Department's goal is to respond timely to critical emergencies, including fire and priority emergency medical calls. Specifically for San José, the first emergency response vehicle should arrive on the scene within 8 minutes, 80% of the time. The Department's response-time performance measure is the standard that was adopted by the City Council following fire service industry standards and recommendations to provide the greatest potential for the provision of excellent services and desired outcomes. The standard response time performance measure adopted by the National Fire Protection Association is for the first company to arrive at the scene of a reported emergency within 6 minutes, 90% of the time.

We recently discovered that the Department's response-time measures have been inconsistently reported since 2009. In general, some data used in the calculation of the response-time measure were excluded in error. Data from emergencies where a fire company responded to a call within its assigned area (closest neighborhood fire station) were included in the citywide response-time calculation, but data from emergencies where a fire company responded to a priority call outside of its assigned area were not. By using the correct methodology for data collection and reporting, the Fire Department expects that its overall response-time rate (percentage at which the response-time goal is achieved) will be lower than what has been reported previously. It is very important to state that even though response-time performance has been reported inconsistently during this period, our firefighters and employees have provided and continue to provide excellent emergency services to our residents and community.

The Department has researched improved methods for collecting data, and new reporting methodology will provide a more accurate measure for emergency response-times. The new reporting procedures are being implemented in January 2013. Once established, comparative data for the current fiscal year can be provided and can potentially be used to reevaluate prior years' performance in order to develop accurate historical information for better trend analysis. Additionally, the Department is continuing to research and implement opportunities to lower response-time performance.

HONORABLE MAYOR AND CITY COUNCIL

January 4, 2013

Subject: San Jose Fire Department Response-Time Reporting

Page 2

The Department is confident that outcomes remain very good in terms of protecting the lives and property of the community. It is also the Department's position that the response-time performance standard (arrive within 8 minutes, 80% of the time) must be maintained to continue to ensure good emergency incident outcomes. The Fire Department will continue to evaluate and implement operational improvements to achieve this response goal, and will bring forward resource recommendations to the City Council as indicated.

A full report on this issue will be delivered in January 2013, at the meeting of the Public Safety, Finance, and Strategic Support Committee.

/s/

WILLIAM MCDONALD, Fire Chief

For questions, please contact William McDonald, Fire Chief, at (408) 794-6951.





SANTA CLARA COUNTY
EMS AGENCY

San José Fire Department

WILLIAM McDONALD, FIRE CHIEF

2013 JAN 23 AM 8:15

January 15, 2013

Michael Petrie
EMS Director
Santa Clara County EMS Agency
976 Lenzen Avenue, Suite 1200
San Jose, CA 95126

RE: SJFD material breach of contract

Dear Director Petrie,

San Jose Fire Department (SJFD) has received and reviewed your correspondence dated January 3, 2013 concerning SJFD's material breach of the *911 Emergency Medical Services Provider Agreement* between the County of Santa Clara and the City of San Jose (Agreement). Although SJFD recognizes that our organization is in material breach of the agreement specific to our response times (as defined in Annex B of the Agreement), SJFD has been working on changes to its processes to align more closely to the terms of the Agreement. These changes have recently been completed and tested and SJFD will begin to immediately implement the following four measures.

1. Pre-alerts for all medical events will be instituted immediately.
2. Submit updated Red Light and Siren response reports for the months of February and April 2012 using the agreed upon criteria along with exception reports which could bring SJFD into the 90% compliance.
3. On Bravo responses Code 2 (without red lights and siren):

SJFD is recommending that the unit on Bravo responses to EMS events within the City of San Jose will respond without lights and siren to the incident. All incidents shall be dispatched via an accredited ACE 911-dispatch center. SJFD recognizes that this alternative would require a change in the *911 Emergency Medical Services Provider Agreement* between all first responder agencies in Santa Clara County. SJFD is proposing a pilot program, lasting for 180-days to determine the efficacy of such a proposal.

4. On Red Light and Siren response times:
SJFD continues with its quality assurance actions to improve response times. SJFD is exploring a variety of funding sources to acquire emerging technologies to improve "turnout" times i.e. Halo systems, Black boxes, and proprietary software solutions.
5. SJFD will provide complete exception reports each month for all late responses at the end of each month when response time performance falls below 90%.

The San Jose Fire Department is confident that these adjustments to its operations will improve performance vis-à-vis the *911 Emergency Medical Services Provider Agreement* between the County of Santa Clara and the City of San Jose.

I look forward to our continued cooperation and take this opportunity to echo the same sentiments you have expressed about the close relationship being forged between our two agencies. I am confident that our partnership would continue to bring positive impacts to the residents of Santa Clara County and the City of San Jose. If there are any questions or concerns please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "William L. McDonald".

William L. McDonald, Fire Chief
San Jose Fire Department



San José Fire Department

December 9, 2013

Michael Petrie
EMS Director
Santa Clara County EMS Agency
976 Lenzen Avenue, Suite 1200
San Jose, CA 95126

RE: SJFD Material breach of contract

Dear Director Petrie,

On behalf of Fire Chief Ruben Torres, I am responding to your letter dated October 23, 2013 regarding San Jose Fire Department's (SJFD) EMS response times. On December 2, 2013, the following measures were implemented in order to improve response time performance:

1. Squad Apparatus responses for Alpha events will exclude third due responses, thereby reducing to first and second due area only.
2. Initial dispatched units will continue to the incident even if the event is triaged to a lower response.
3. Dispatches will no longer include "station pre-alerts"; but will immediately identify the responding resource. During this pre-alert time period, our analysis showed no improvement in our response time performance. We believe dispatching the nearest resource immediately will provide for a faster turnout and response times.
4. We have decentralized EMS SUS skills training to be conducted in the Stations in centralized locations thus reducing 'out of service' travel time to our Training Division.
5. We have decentralized our annual SCBAs units' maintenance, mask fit and ground ladder testing to the stations thus reducing 'out of service' travel time to our Training Division.
6. We have centralized the distribution of supplies for our apparatus and stations; which is also where our mechanical repair shop and administration is located. This distribution change will minimize "out of service" travel time for our companies when restocking their supplies.

7. We are investing in a "time clock" in each of our stations in an effort to alert crews how much time has lapsed when a dispatch call is received. This should improve our turnout time and thus our overall response times.

We will continue to address SJFD service level impacts and our need to restore service levels prior to July 2011 budget cuts. As you know, due to these cuts and anticipated future budgetary shortfalls, several engine companies will remain out of service with the potential of at least two additional companies not in service on a daily basis in the new fiscal year.

We look forward to our continued dialogs and cooperation as we work together in improving EMS delivery on a local and regional level.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Diaz", written in a cursive style.

Juan F. Diaz, Deputy Fire Chief
Bureau of Operational Support
EMS-Training-Facilities-Support

San José Fire Department Response Time Performance Initial Analysis



Final Report

Submitted To:

Ruben Torres, Acting Fire Chief, San José Fire Department
Ron D'Acchioli, Deputy Director, San José Fire Department

Submitted By:

Jeff Fielding, Captain/Data Working Group Manager
Sean Kaldor, Captain/Data Working Group
Jose Joseph, Supervising Applications Analyst/Data Working Group
Mark Leeds, Firefighter/Data Working Group

April 7, 2014

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INTRODUCTION

This report provides an initial analysis of the San José Fire Department's ("SJFD" or "the department") response time performance. The goals of this analysis were to document department response time performance against the City's performance goals, to segment that performance into key sub-components (dispatch, turnout, and travel times), to review that performance across various parameters (time of day, incident type, area, etc.), and to identify opportunities for improving response times.

The bulk of the effort behind this report has been involved in obtaining detailed, accurate, and validated incident response data. This was a major initiative that involved hundreds of hours of technical and analytical effort. With that data now readily available, an extensive analysis can now be completed to thoroughly understand department response times and provide comprehensive recommendations on response time enhancements. This report only begins to touch on the surface of such analysis, and should be the starting point for further work.

The analysis was performed under the direction of Acting Fire Chief Ruben Torres. The analysis was supervised by the Bureau of Administrative Services Deputy Director, Ron D'Acchioli.

BACKGROUND

The San José Fire Department is held to response time objectives set by the 2000 City of San José Strategic Plan and by the Santa Clara County Board of Supervisors as set forth in the County Emergency Medical Services ("EMS") agreement. The department reports its performance monthly to EMS and annually to the City. Recently, there have been concerns about both the department's performance against those standards, and the accuracy of the performance being reported.

In conjunction with San José Fire Department IT, the Data Working Group calculated and verified, where possible, the accuracy of the response times that the department is required to calculate for performance reporting. Response time data collection, calculation and reporting were addressed in the December 10, 2013, memo titled "Response Time Assessment." This process involved production of a comprehensive database on response time performance at an incident-by-incident level.

Additionally, the department sought third party verification of the response time calculation methodology used. Athena Advanced Networks completed an audit of the methodology used for response time calculations used in this analysis. They concluded:

"This new reporting methodology provides more accurate results than past practices and will go a long way to increasing confidence in this process. By employing this new methodology for assessing response time the department can focus on reviewing operations and procedures and taking steps to improve response time and services to the population they serve."

Now that accurate and reliable data exist on response time performance, this report presents the first thorough documentation of response times coupled with an analysis of those response times to segment, identify, and quantify initial recommendations for response time improvements.

Response time performance is influenced by multiple interacting factors – resource availability, policies, effective resource utilization, station location, station design, apparatus location, technologies, OSHA requirements, industry best practices, safety, and behavior to name but a few. Improving overall performance is a complex process that requires careful analysis of accurate, reliable, and timely data.

Response Time Performance Standards

The department is “all hazard,” meaning that it responds to mitigate medical, fire, rescue, hazardous materials, aviation, and other types of emergencies within its area of jurisdiction.

Per the National Institute of Standards and Technology (NIST), a fire doubles in size every 60 seconds. Per the Utstein Criteria, a person that has lost circulation or breathing ability has a very low percentage of survivability after a period of five (5) minutes, and their survival rate falls to near zero after eight (8) minutes.

As a result, it is possible to save lives and property if adequately trained and equipped emergency resources arrive on scene quickly. The same resources, arriving only a few minutes later, may be useless to the choking or cardiac arrest patient, or may not be able to prevent the loss of an entire home or apartment building to fire. The International City Managers Association (ICMA) has determined “the most effective way to improve outcomes for both fire and medical emergency response is to reduce response time.”

Due to this time sensitivity, the most fundamental performance standard for an all hazard fire department is its response time. Many departments use the NFPA 1710 standard as a goal, not as a requirement or policy objective. With regard to response times, NFPA 1710 states:

- Four (4) minutes or less for the arrival of the first arriving engine company at a fire suppression incident and/or eight (8) minutes or less for the deployment of a full first alarm assignment at a fire suppression incident.
- Four (4) minutes or less for the arrival of a unit with first responder or higher level capability.
- Eight (8) minutes or less for the arrival an advanced life support unit.
- A performance objective of not less than 90 percent for the achievement of the above time objectives.

Arriving later than these NFPA standards can have a direct impact on the loss of life, damage to the environment, and the loss of property. The loss of commercial property can have a secondary impact of loss of employment, increased social support costs, and decreased governmental revenues.

The department targets its response time performance to achieve two objectives. The first is dictated by the City Council and City Manager, while the second is dictated by a contract between the City and the Santa Clara County EMS Agency.

San José City Standard

The response time performance standard for the City of San José applies to all types of incidents (EMS, fire, HazMat, rescue, etc.) and it applies to all incidents handled within San José. It does not apply when SJFD resources are called to respond outside of San José jurisdiction, but it does apply when incidents are handled through automatic aid (pre-arranged due to fire station proximity) or mutual aid (one-time resource limitations) requests.

The time standard depends upon the severity of the reported incident as determined through the Fire Priority Dispatch System or Medical Priority Dispatch System. The standard is to arrive within eight (8) minutes to all Priority 1 emergencies and within 13 minutes to all Priority 2 emergencies, measured from the time that a relevant emergency is reported (including alarm transfer time, alarm answering time, and alarm processing time). This is to be achieved on 80% of incidents.

Due to technology limitations, the department's tracking of response times starts when a Communications call taker confirms that the incident address is within San José's jurisdiction, and determines that there is an emergency requiring a Fire Department resource. This is the "start of entry" time, meaning a new incident has been started in the Computer Aided Dispatch (CAD) system. The response time stops when the first fire department emergency resource arrives on scene. This is the "on scene" time, meaning the apparatus has stopped and crewmembers can begin dismounting in order to mitigate the emergency.

If resources are cancelled while en route (such as when a patient self-transport, or when a fire alarm is reported to be a false alarm and has reset), the incident will be reported as late if the performance standard time (8 minutes or 13 minute) has already elapsed because the department did not meet the performance standard. However, if resources are cancelled while still en route prior to the performance standard time, the call is not counted as either meeting the standard or not meeting the standard. This is because it is not known whether it would have arrived on time, so there should be no penalty, nor should the department be recognized for meeting its response time.

Santa Clara County EMS Standard

The response time performance standard for the agreement with Santa Clara County EMS is specific only to EMS incidents, defined by Santa Clara County to include incidents such as major vehicle accidents.

It does not apply when SJFD resources are called to respond outside of the County, but it does apply when SJFD has sub-contracted with another agency to provide emergency service to San José residents.

The time standard depends upon the severity of the reported EMS incident, as determined through the Medical Priority Dispatch System. Based upon MPDS incident typing, the fire department sends either a Red Lights & Sirens (Priority 1) or non-Red Lights & Sirens (Priority 2) response. The County contractual standard is to arrive within eight (8) minutes on Priority 1 EMS incidents and within 13 minutes on Priority 2 EMS incidents. These times are measured from the time that a fire department resource is dispatched to respond (excludes alarm transfer time, alarm answering time, and alarm processing time because many agencies cannot control those times). This is to be achieved on 95% of incidents to avoid any reductions in the funding

stipend from the County. This is to be achieved on 90% of incidents to have minimal compliance with the County contract. Consistent response times below 90% of the agreement objectives places the department in material breach of the EMS agreement.

The response time starts when the first fire department resource is notified to respond (“dispatch time”). The response time stops when the first appropriate fire department emergency resource arrives on scene. This is the “on scene” time. A resource is appropriate if it has the correctly trained personnel and the correct equipment to mitigate the emergency incident. A Priority 1 incident requires a licensed Paramedic and Emergency Medical Technician with Advanced Lifesaving Equipment. A Priority 2 incident requires Emergency Medical Technicians with Basic Life Support Equipment.

If resources are cancelled while en route (such as when a patient self-transport, or the ambulance cancels fire department resources), the incident will be reported as late if the performance standard time (8 minutes or 13 minute) has already elapsed because the department did not meet the performance standard. However, if resources are cancelled while en route prior to the performance standard time, the call is not counted as either meeting the standard or not meeting the standard. This is because it is not known whether it would have arrived on time, so there should be no penalty, nor should the department be recognized for meeting its response time.

The County contract provides for exemptions in certain situations. These situations are identified manually at the end of each month, and the exemption must be requested from County EMS.

The County contract allows longer response times for suburban and rural areas. The department is currently in discussions with the County to determine which, if any, San José areas should be re-categorized as either suburban or rural in order to have the longer response times apply. Because relatively few calls happen in these areas, and because response times often take longer than even the extended County times for those types of areas, this is not anticipated to have a significant impact on overall response time performance.

The County contract also provides special adjustments if a call is upgraded or downgraded while resources are en route, and for the use of “pre-alert” apparatus notifications. These adjustments allow the resetting of the unit notification time. Full details of these situations and all information for reporting response times to County EMS can be found in the attachment, Annex B of the contract between the City of San José and Santa Clara County EMS.

While the focus of this report is on performance against City response time requirements, the following chart depicts validated calculations of County response time performance for Priority 1 calls from July, 2012 through March 2014.

final_call_type_code	3	Y
countForCountyEMS	1	Y

Row Labels	Sum of EMS_Late8MinCode3	Sum of EMS_CountCode3	Sum of EMS_TakeExemption	Sum of ems_OnTimeCancellation	Total calls				
					Total calls cancelled	Unadjusted Compliance	Total calls cancelled - after Exemption	Late calls after reconciliation	Total calls reconciled
▼ 2012	3047	25935	831	1708	24227	87.42312	23396	2216	90.53
7	453	4169	199	286	3883	88.33376	3684	254	93.11
8	412	4359	188	277	4082	89.90691	3894	224	94.25
9	521	4265	177	283	3982	86.91612	3805	344	90.96
10	565	4434	129	292	4142	86.35925	4013	436	89.14
11	533	4232	61	283	3949	86.50291	3888	472	87.86
12	563	4476	77	287	4189	86.56004	4112	486	88.18
▼ 2013	7345	54651	1595	3579	51072	85.61834	49477	5750	88.38
1	552	4609	81	252	4357	87.33073	4276	471	88.99
2	517	4322	50	270	4052	87.24087	4002	467	88.33
3	506	4599	65	287	4312	88.26531	4247	441	89.62
4	543	4584	102	273	4311	87.40431	4209	441	89.52
5	625	4702	114	347	4355	85.64868	4241	511	87.95
6	568	4379	116	318	4061	86.0133	3945	452	88.54
7	604	4524	94	312	4212	85.66002	4118	510	87.62
8	610	4599	412	296	4303	85.82384	3891	198	94.91
9	703	4438	320	307	4131	82.98233	3811	383	89.95
10	736	4688	106	316	4372	83.1656	4266	630	85.23
11	668	4530	55	317	4213	84.14432	4158	613	85.26
12	713	4677	80	284	4393	83.76963	4313	633	85.32
▼ 2014	1810	13679	339	899	12780	85.83725	12441	1471	88.18
1	680	4704	174	295	4409	84.577	4235	506	88.05
2	569	4275	89	291	3984	85.71787	3895	480	87.68

The following table compares validated calculations of County response times compared to what had been previously reported for the same period.

County EMS Response Times : 8 Min Compliance for the Code 3 incidents

2012							
Month	Jul	Aug	Sep	Oct	Nov	Dec	
Previously Reported	90.11	91.67	90.96	89.01	87.61	87.44	
EMS Compliance	93.11	94.25	90.96	89.14	87.86	88.18	

2013												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Previously Reported	88.14	88.60	89.39	89.52	87.32	88.54	89.19	88.37	86.32	86.89	83.87	83.87
EMS Compliance	88.99	88.33	89.62	89.52	87.95	88.54	87.62	94.91	89.95	85.23	85.26	85.32

2014			
Month	Jan	Feb	Mar
Previously Reported	88.06	87.66	
EMS Compliance	88.05	87.68	88.75

Scope of the Analysis

The goals of this analysis were to document department response time performance against the City's performance goals, to break down that performance into key sub-components (dispatch, turnout, and travel times), to review that performance across various parameters (time of day, incident type, area, etc.), and to identify initial opportunities for improving response times. The following analysis was performed:

1. A complete CAD export of dispatch data (July 1st, 2012 to February 28th, 2014) was performed, including all units dispatched on each incident and the GPS coordinates of the incident location and each unit at the time of going en route.
2. A thorough analysis of the first component of response times - dispatch time. This analysis included an assessment of actual dispatch times, including performance against goals.
3. A thorough analysis of the second component of response times - turnout times. This included splitting fire from EMS turnout times and analyzing performance by station, shift, and other dimensions.
4. A thorough analysis of the final component of response times - travel time. This included travel times by shift, by station, and other dimensions.
5. Heat Mapping/GIS analysis of responses to identify late response trends and potential causes.

The bulk of the effort behind this report has been involved in obtaining detailed, accurate, and validated incident response data. This was a major initiative that involved hundreds of hours of technical and analytical effort. With that data now readily available, an extensive analysis can now be completed to thoroughly understand department response times and provide comprehensive recommendations on response time enhancements. This report only begins to touch on the surface of such analysis, and should be the starting point for further work.

Demand Analysis

Between July 1, 2012 and June 30, 2013 (Fiscal Year 12-13), the San José Fire Department responded to over 77,000 incidents. The number of incidents is not to be confused with the number of unit responses, which exceed 100,000. An incident may require the response of more than one unit, but only one incident number is generated.

Incident Type Breakdown

The following chart lists incidents by type for FY 2012-2013, the percentage of total responses for each incident type, and the year over year percentage increase for each incident type.

	Incident Count	Percentage of Total	Percentage Increase from FY 2011-2012
Fire	2,008	2.6%	5%
Rescue, HazMat, USAR and Non-Fire Hazards	6,074	7.8%	-4%
Medical	48,343	62%	3%
Good Intent or Service Request	8,047	10.4%	9%
No Incident Found/Wrong Location or Cancelled En-Route	4,815	6.2%	16%
False Alarm or False Call	896	1.2%	-16%
Uncategorized	7,298	9.4%	20%
Total Incidents	77,481		5.7%

This chart is based upon the exact nature of the incident when crews arrived on scene. So for example, while the fire department may dispatch thousands of “fire alarms” or other fire reports during the year, 2,008 of those reports were found to be actual fires upon arriving on scene.

The raw number of incidents does not reflect the work involved in each. For example, one of the 2,008 fires may involve dozens of engine and truck companies working for hours on a multiple alarm blaze, with millions of dollars in fire losses, while one false alarm may only take a single engine company a few minutes and involve no financial loss.

Uncategorized incidents are those for which the responding company did not identify a specific incident type in the National Fire Incident Reporting System electronic report. Multiple reasons for such incomplete reports have been identified, including training, awareness, feedback and compliance. The group issued a major online training in late 2013 to address the first issue, and reports are being developed to assist with timely feedback and compliance.

Incident Trends

For FY 2012-2013 the department experienced a 5.7% increase in incidents from FY 2011-2012, and an overall increase of 10% since FY 2009-2010. This data is aggregated and does not identify demand in different areas of the city, such as battalions or station districts. During the same four-year period, population only grew 3% while demand for medical calls have increased 7% and fires have increased by 26%. Figures 1 and 2 represent incident trends from FY 2009-2010 through FY 2012-2013.

Figure 1

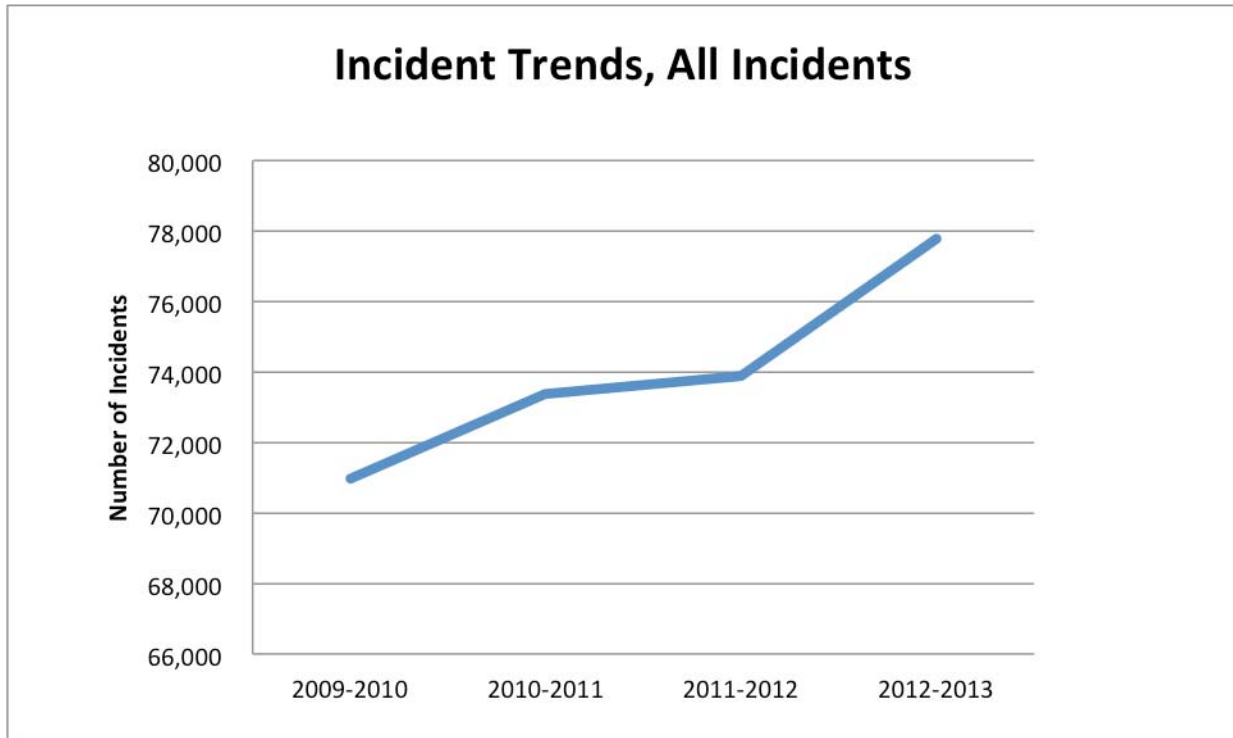


Figure 2

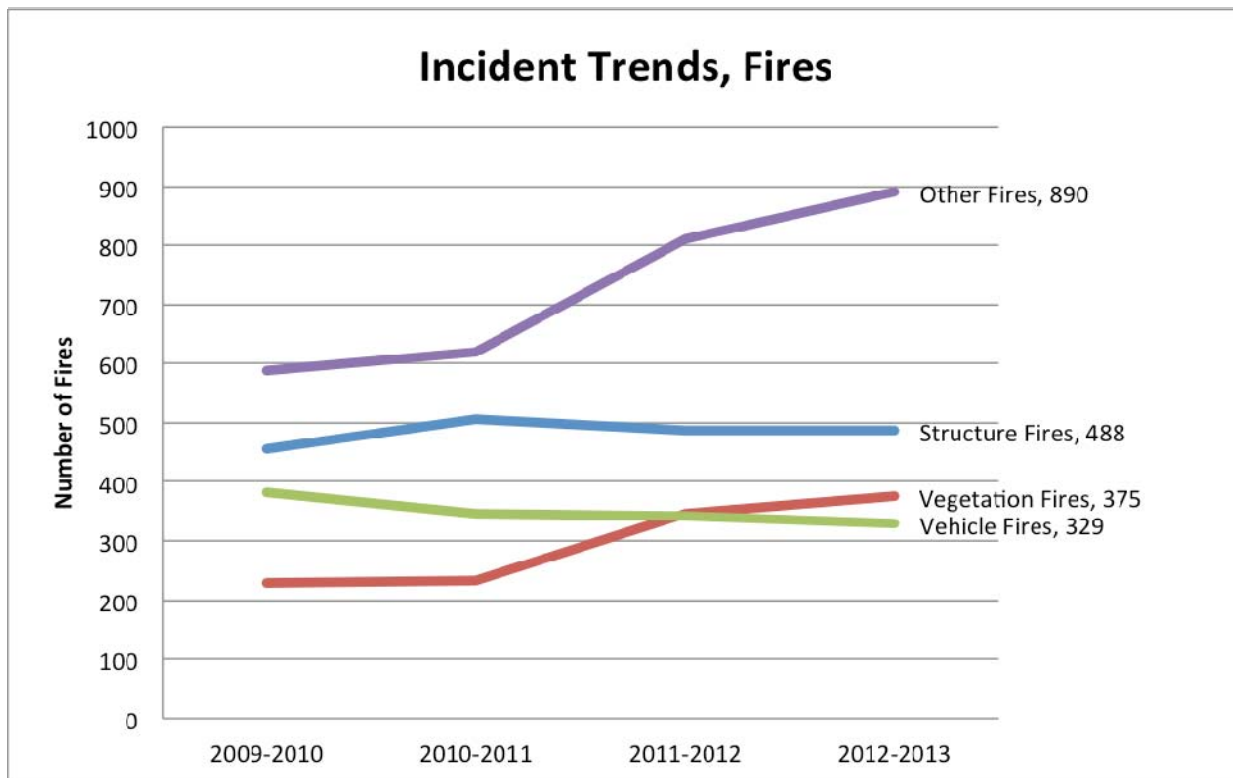
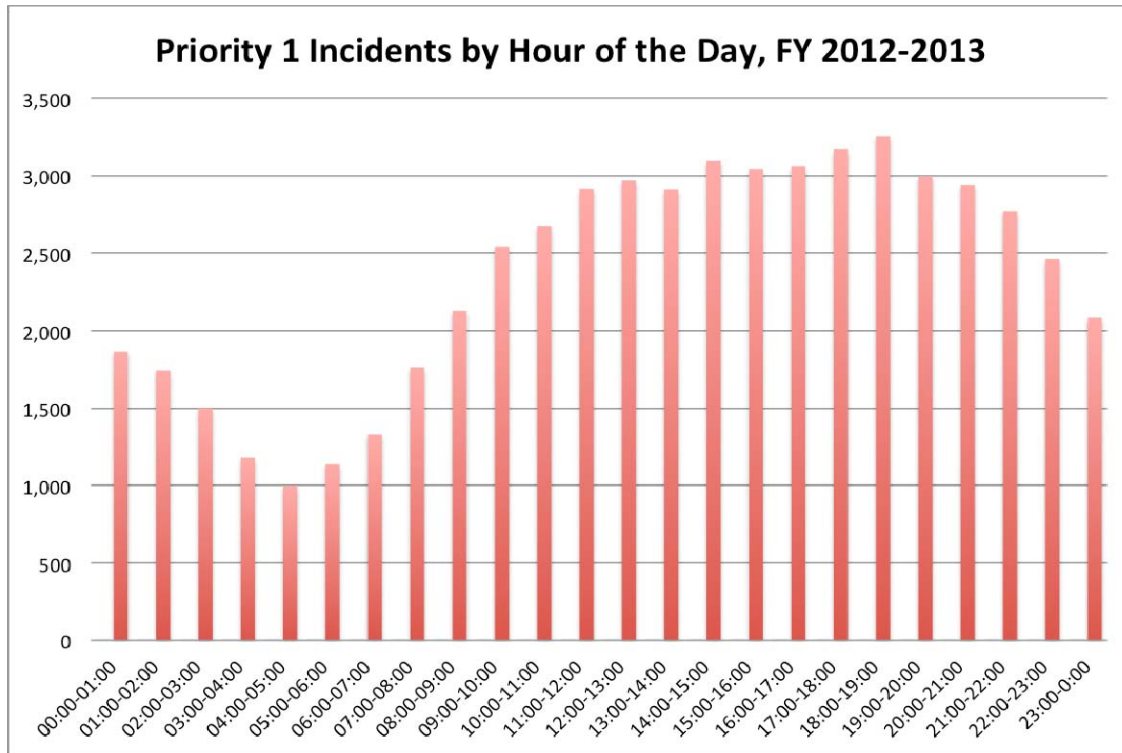


Figure 3 shows priority 1 incidents, broken down by hour of the day, showing that the highest demand occurs between 1100 hours (11AM) and 2000 hours (8PM) daily, with the peak being between 1400 hours (2PM) and 1900 hours (7PM).

Figure 3



ANALYSIS

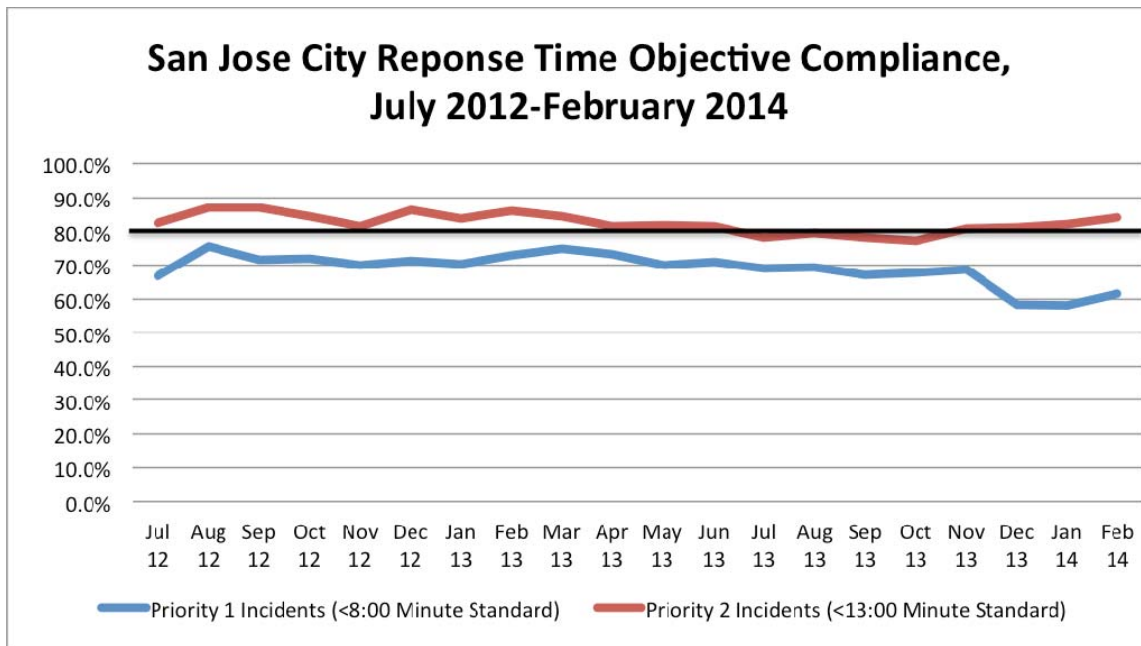
Total Response Time Analysis

For FY 2012-2013, the department achieved the San José City response time objective for Priority 1 calls (less than 8 minutes 80% of the time) 71.7% of the time. For the FY 2012-2013, the department achieved the San José City response time objective for Priority 2 calls (less than 13 minutes 80% of the time) 83.9% of the time. Note the table below for month-to-month calculations.

City Response Times : 8 Min Compliance for the Priority 1 incidents												
2012												
Months							Jul	Aug	Sep	Oct	Nov	Dec
8min Compliance							66.73	75.61	71.60	71.92	70.09	71.27
2013												
Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8min Compliance	70.41	72.87	74.89	73.23	70.06	71.08	69.03	69.34	67.09	67.69	68.68	58.17
2014												
Months	Jan	Feb	Mar									
8min Compliance	58.03	61.33	68.96									

Figure 4 shows response time performance by month from July 2012-February 2014 for Priority 1 and Priority 2 calls. Since July of 2012, the department has not met the response time for Priority 1 calls for any of the months.

Figure 4



*Note: 7/25/12 to 9/4/13 includes pre-alerts as separate events, causing response times to appear better than were actually achieved.
 **Note: On 12/2/13, an alternative dispatch policy was implemented which resulted in the dispatch of the most appropriate apparatus, but caused a delay in response times. This was revised on 3/17/14.

Response time compliance for Priority 1 incidents in FY 2012-2013, when looked at by hour of the day, is lowest between the hours of 2300 and 0800 when call volume is the lowest. Figure 5 shows response time performance for Priority 1 incidents by hour of the day with incident volume for FY 2012-2013. A possible reason driving this can be found by examining the charts that break down compliance with dispatch times, turnout times, and travel times by day-part.

Figure 5

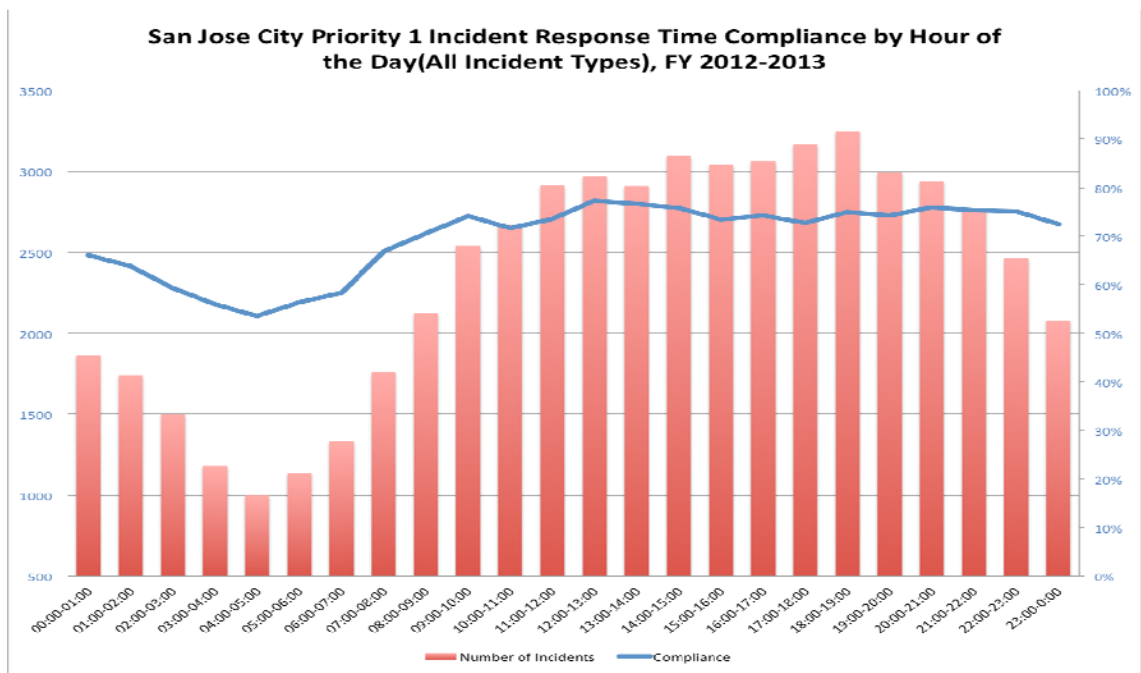
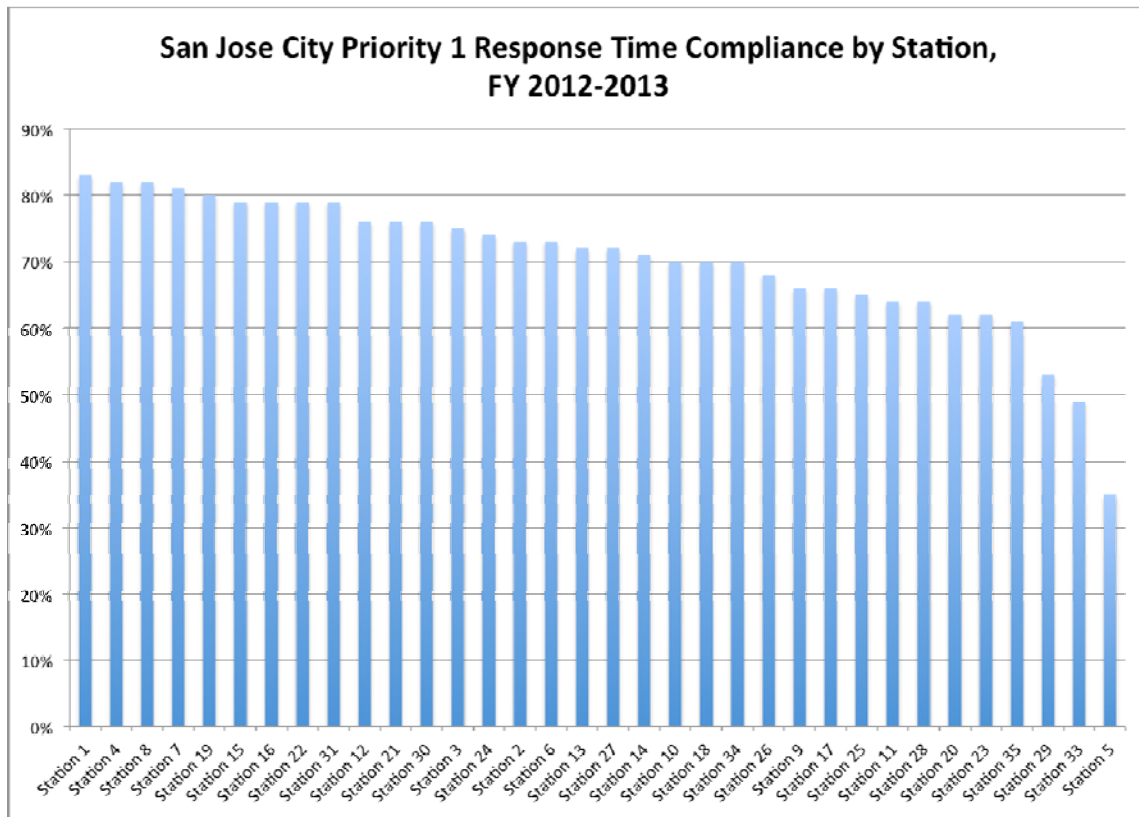


Figure 6 shows the Priority 1 response time performance by station for FY 2012-2013. When time allows, a more detailed station-by-station analysis is needed to identify reasons why some stations perform poorly as compared to others. Some explanations could be response area size and traffic patterns.

This data is reflecting total response times to incidents by “first due area.” Busy stations that require frequent coverage by second due apparatus may see longer travel times, and slower overall response times, because those apparatus have to respond from much farther away. For example, Fire Station 5 was closed for mold mitigation for much of the year, so all responses in Station 5’s first due area were handled by apparatus out of Fire Station 1, Fire Station 34, Fire Station 29, or Fire Station 23.

Figure 6

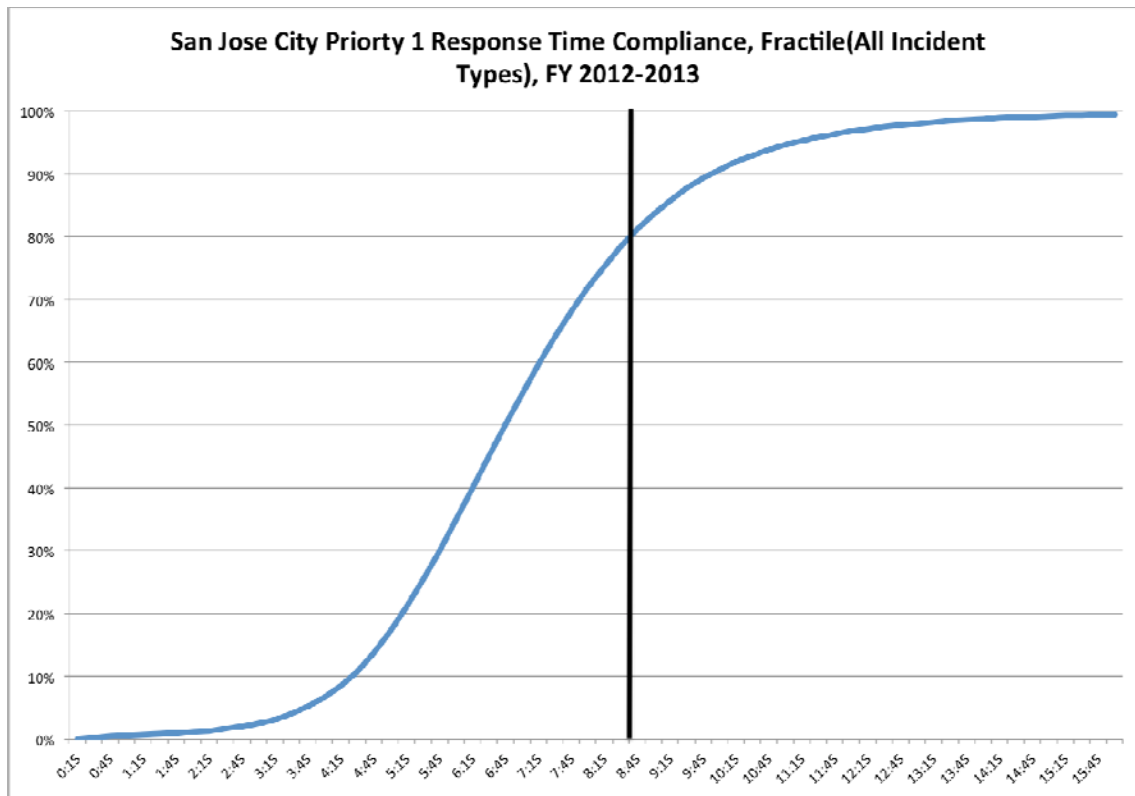


*Note: Station 33 is vacant. Station 5 was closed for 10 months to abate mold. E09, E29, and E35 browned out regularly.

**Note: 7/25/12 to 9/4/13 includes pre-alerts as separate events, causing response times to appear better than were actually achieved.

Figure 7 shows fractile response time compliance priority 1 incidents (all types) for FY 2012-2013.

Figure 7



Alarm Time Analysis

The department has an alarm time objective to complete alarm transfer, alarm answering, and alarm processing within 2:00 minutes, 80% of the time.

- **Alarm Transfer Time:** The time between when the call first starts ringing at the primary Public Safety Answer Point (PSAP) until it is transferred to the fire department communications center for processing. The primary PSAP in San José is generally the Police Department communication center.
- **Alarm Answering Time:** The time between when the transferred 911 call starts ringing in the fire department communications center until the call is answered by staff so the alarm can be processed.
- **Alarm Processing Time:** The time between when fire communications staff begins speaking on the phone to the 911 call until when the first emergency response vehicle is dispatch to respond to the incident.

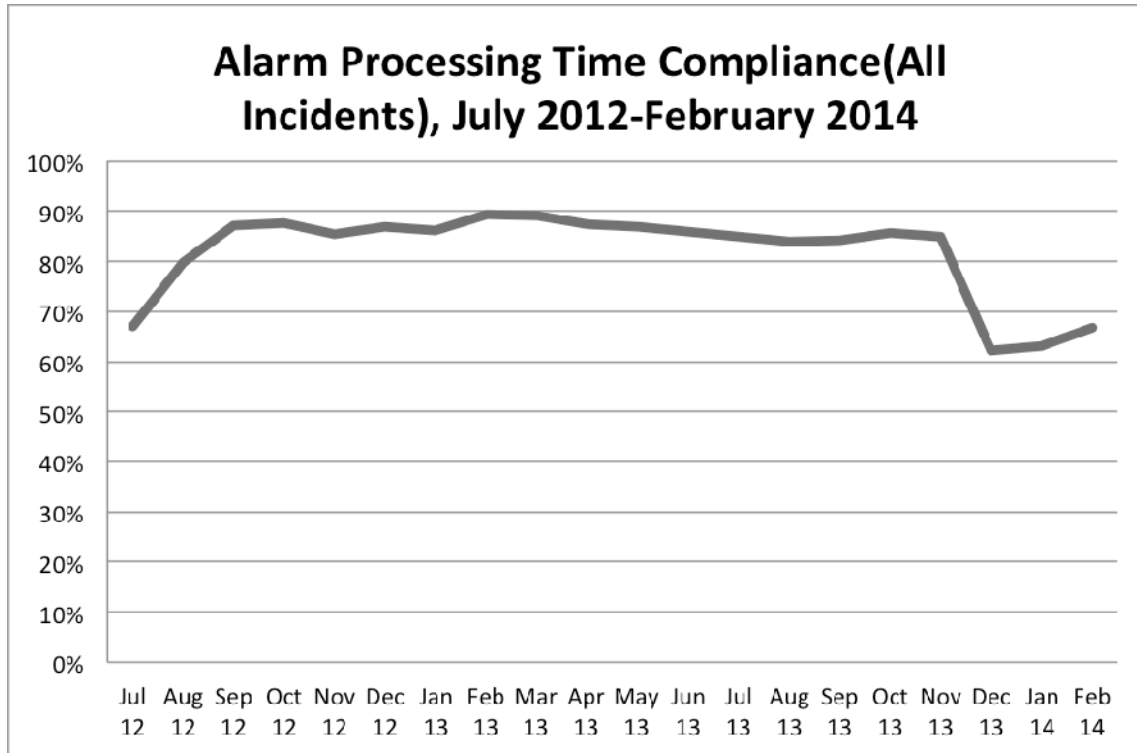
San José currently utilizes a telephone system that does not effectively integrate call tracking and call times into its CAD system. Although aggregate data is available regarding transfer times and answer times, this information cannot be collected at the incident level. Therefore, San José currently reports dispatch times as starting at the moment when fire communications staff begins entering information in the CAD system. This timestamp is called “Entry Start Time,” and is captured by CAD the moment key data has started to be entered into a new incident. The

department is considering issuing an RFP for a new phone system that will allow integration of all alarm times at an incident-by-incident level.

The following charts provide an analysis of the department's alarm processing time performance against this standard.

Figure 8 shows alarm processing time compliance for all incidents from July 2012 to February 2014.

Figure 8



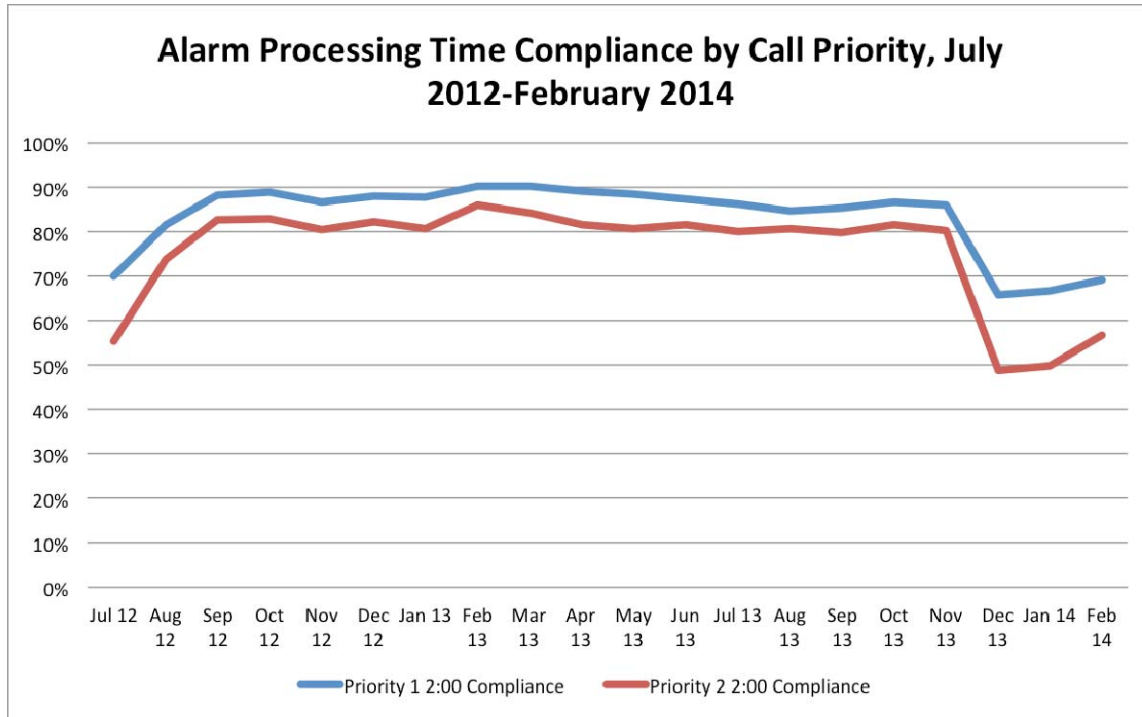
The decrease in performance seen in late 2013 is due to a change in the department's dispatching policy for medical calls. On December 2, 2013, a system of station pre-alerts was discontinued in an effort to ensure the correct or most appropriate unit was sent to an EMS call. The goal was to allow calls to be fully triaged to identify those that could be handled by a Squad apparatus. With this change, communications personnel fully triaged medical incidents using the Medical Priority Dispatch System ("MPDS") prior to dispatching a unit to respond to the incident resulting in a significant increase in alarm processing time. While this allowed the department to send the most appropriate apparatus to incidents, it resulted in a significant worsening of response time performance. While a decrease was expected, it was far worse than anticipated. Therefore, this change to the department's dispatching policy was discontinued on March 17, 2014.

The NFPA 1221 "Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems standard for Alarm Processing Time" 2013 edition sets the following alarm time standards:

- Alarm Transfer Time = <30 Seconds 95% of the time
- Alarm Answering Time =<15 Seconds 95% of the time
- Alarm Processing Time =<60 Seconds 80% of the time (= <106 seconds, 95%)

Figure 9 shows the alarm processing time compliance by call priority from July 2012 to February 2014.

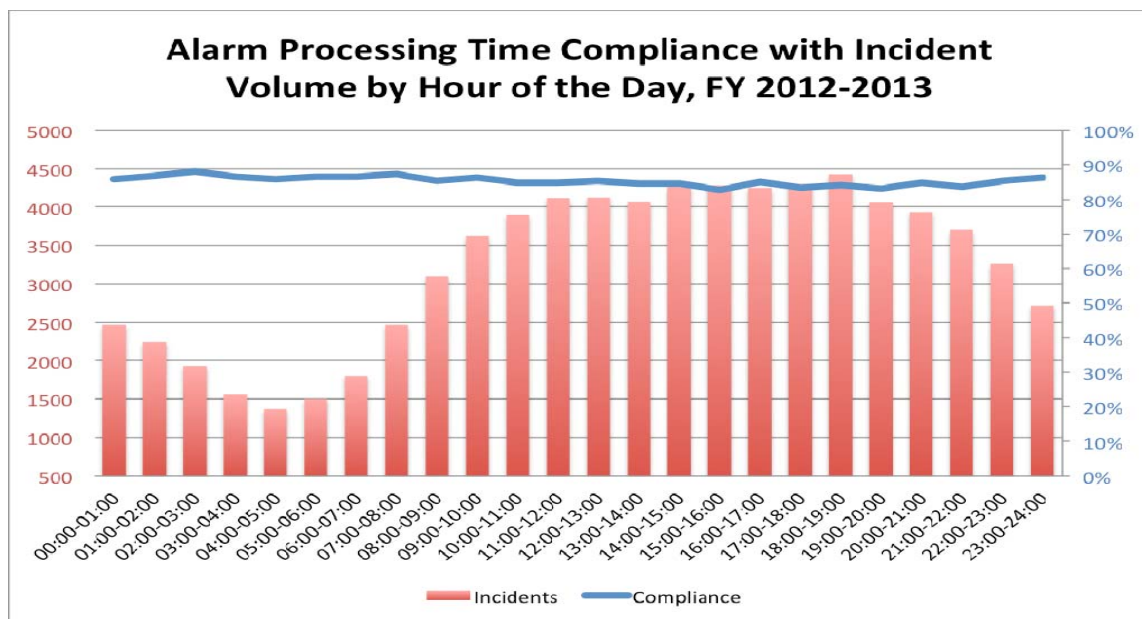
Figure 9



Again, the decrease in performance seen in late 2013 was due to the change in dispatch policy referenced above.

Figure 10 shows alarm processing time along with incident volume by hour of the day for FY 2012-2013.

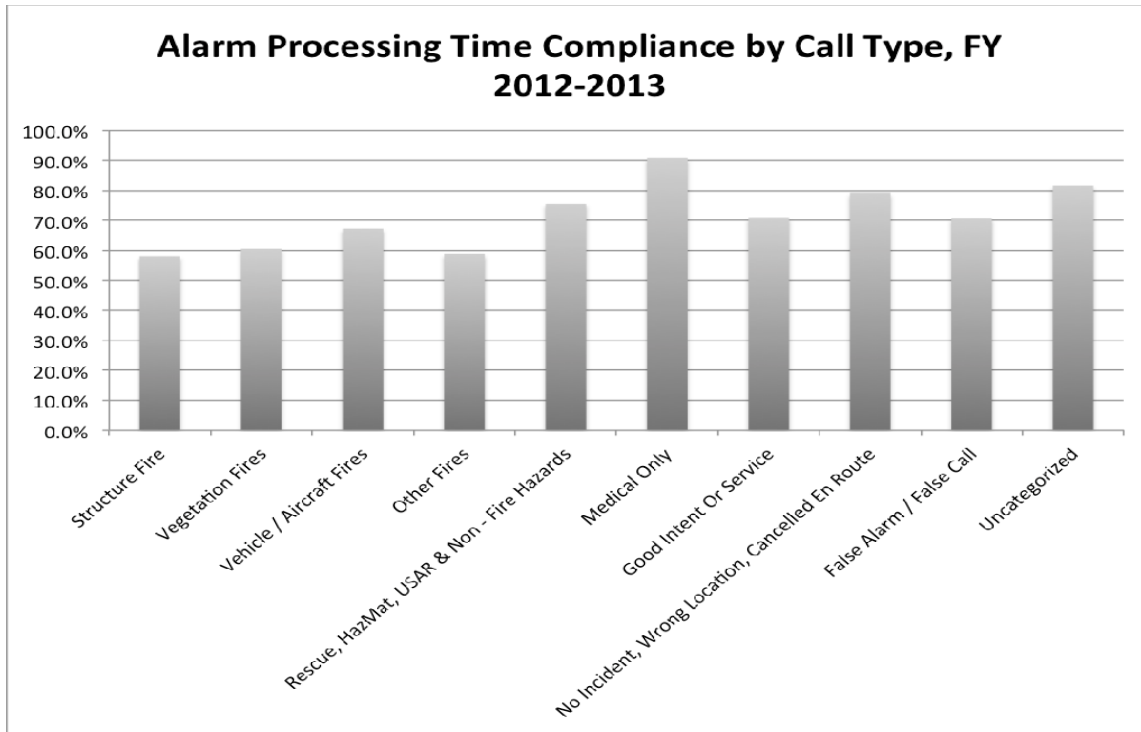
Figure 10



Incident volume has little effect on the compliance of alarm processing time.

Figure 11 shows alarm processing time by call type.

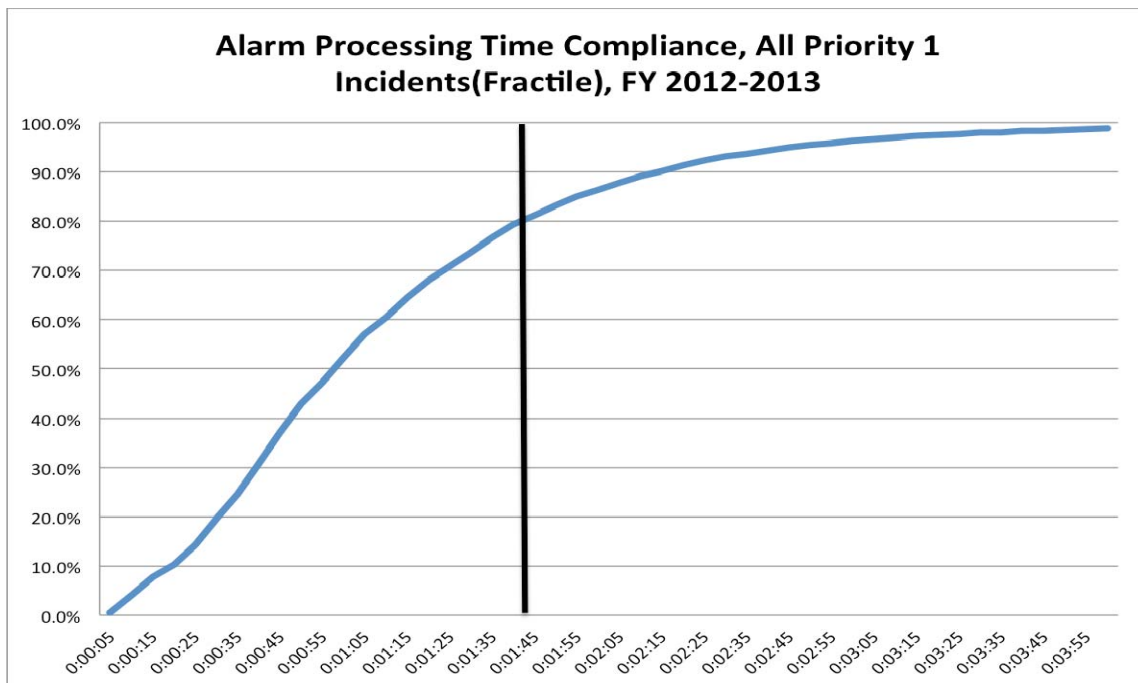
Figure 11



Fires have the lowest compliance of all the call types, which is expected as communications personnel currently have to ask the reporting party a long list of questions to ascertain the nature and/or severity of the fire in order to send the correct response.

Figure 12 shows the fractile performance of alarm processing time.

Figure 12



Turnout Time Analysis

The department has a turnout time objective of 2:00 minutes 80% of the time. Turnout time is measured from the time a unit is notified that they are to respond to an incident (“dispatch time”) to the time that the unit starts moving toward the incident (“en route” time”).

Turnout time involves notifying the crew that they have an incident, safely stopping their activities, pulling response “run card” maps from a filing cabinet, securing the station, donning the appropriate Personal Protective Equipment, boarding the apparatus, starting the apparatus, engaging their seatbelts, opening the apparatus bay door, disengaging the parking brake, and beginning to exit the station. Many of these events happen simultaneously or are handled by different crewmembers.

NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2010 edition, sets a standard for turnout times at 60 seconds for EMS and 80 seconds for incidents that require donning personal protective equipment (e.g. fires and special operations responses).

Figure 13 shows turnout time compliance for all incidents from July 2012 to February 2014.

Figure 13

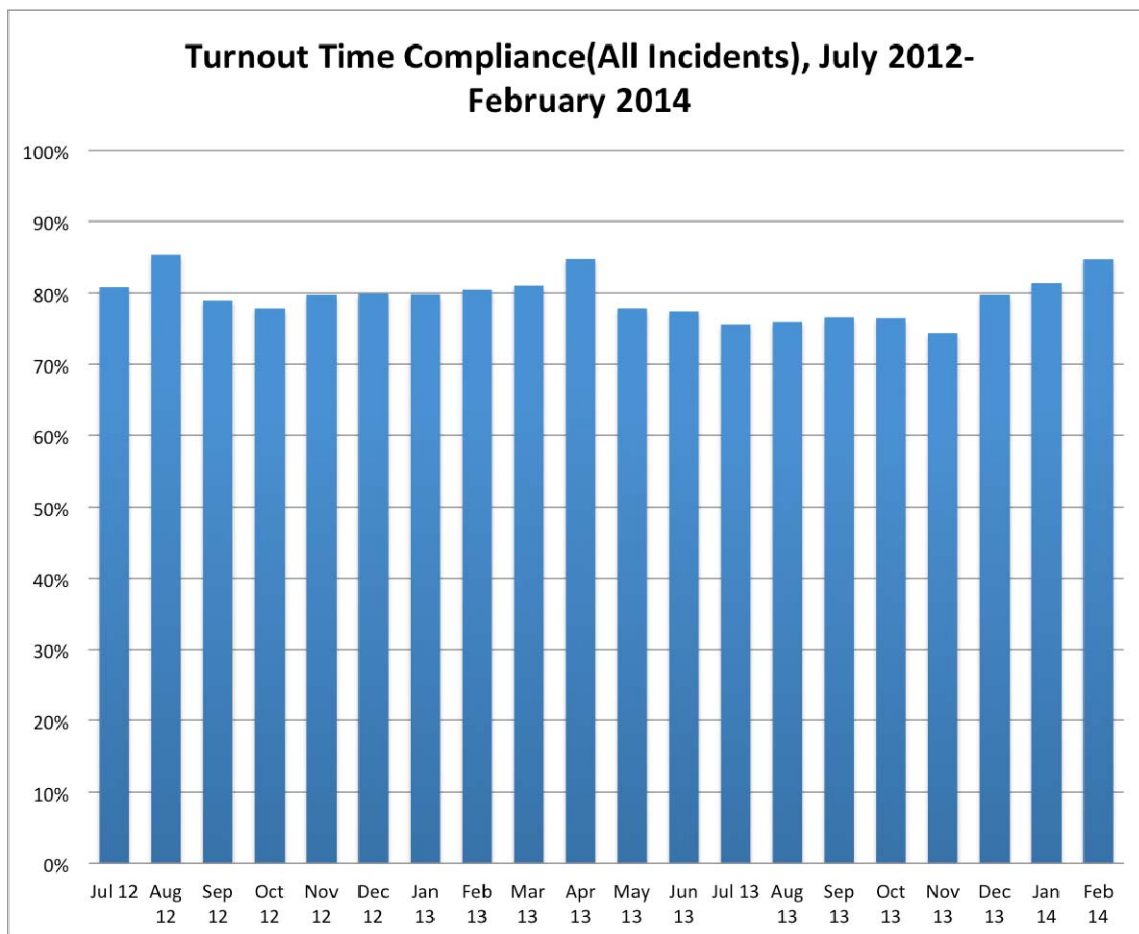


Figure 14 shows turnout time compliance for priority 1 incidents, separated by shift, from July 2012-February 2014.

Figure 14

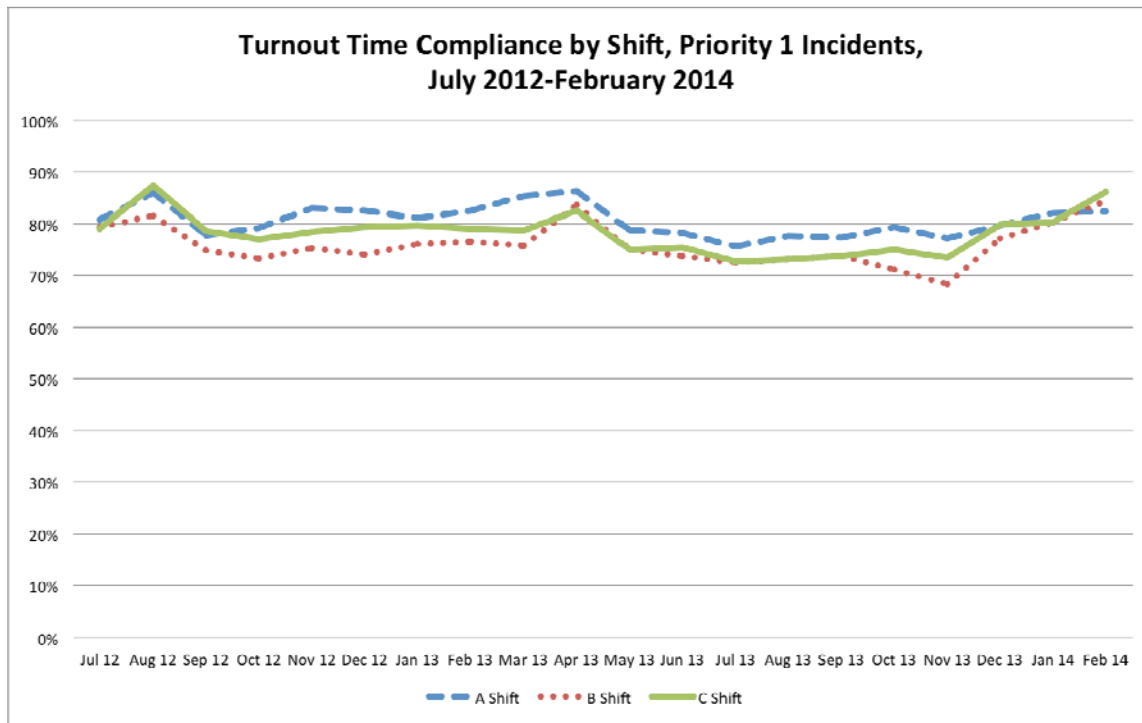
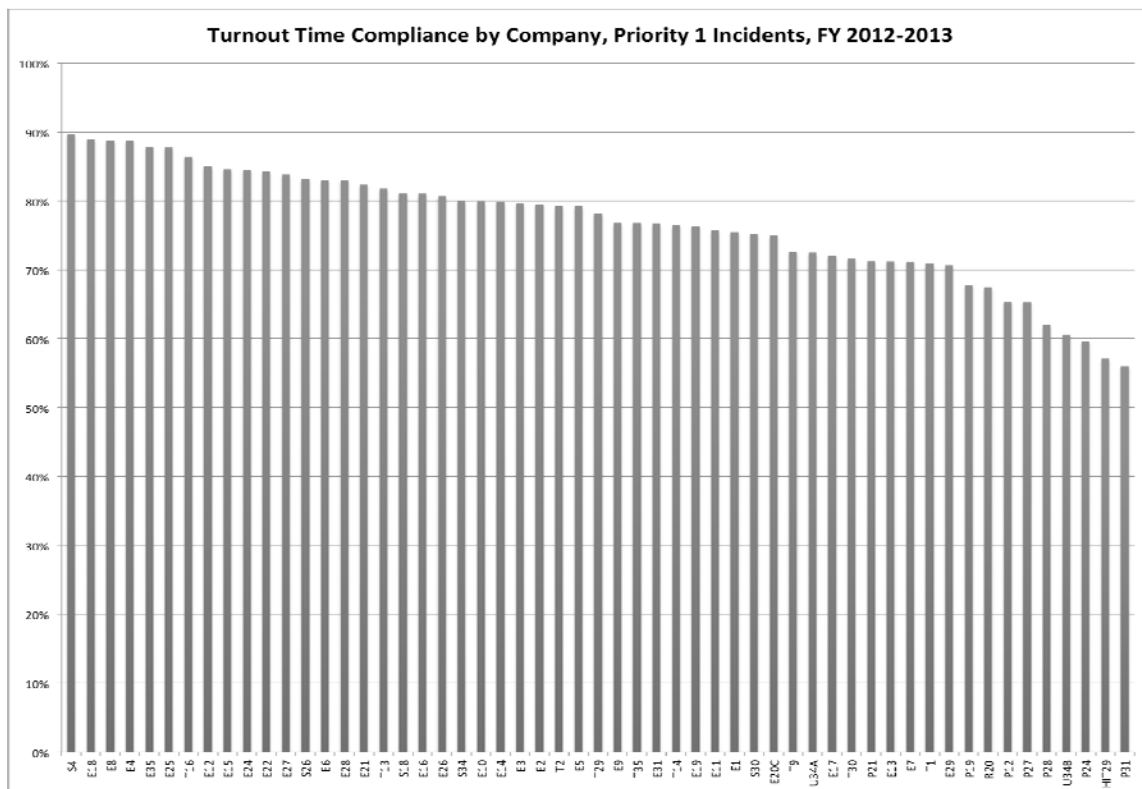


Figure 15 shows turnout time compliance for priority 1 incidents by company for FY 2012-2013.

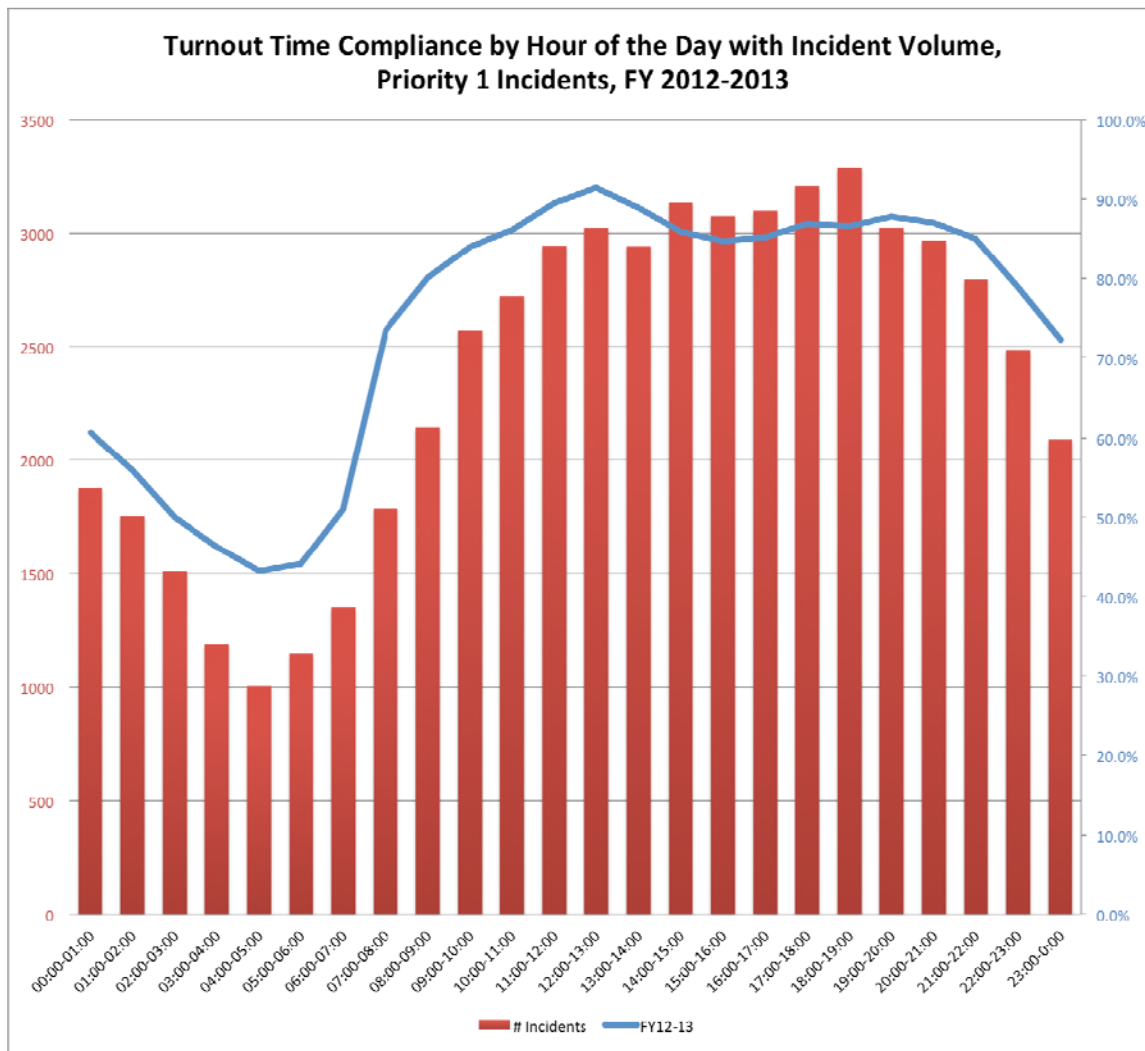
Figure 15



Further analysis is needed to determine why there is such a disparity between the best and worst performing companies. Some explanations could include station size, station configuration, re-dispatching, behavioral differences, lack of understanding of policies, etc. Some of the slowest performers are also “secondary” units at stations. These apparatus, such as Brush Patrols, are attached to and travel with a primary apparatus – the fire engine. Personnel on these apparatus may be waiting to enter “en route” on their Mobile Dispatch Computer (MDC) to prevent confusion at fire communications. Some of these personnel are also not permanently assigned and can forget to enter “en route,” requiring a prompt by communications personnel. As an additional factor, some apparatus such as aerial trucks, may be attempting to respond to emergencies while they are conducting extensive Sunday drills/equipment checks. Although this is well intentioned, their status requires a longer time to re-bed the aerial or otherwise re-assemble their equipment for the response.

Figure 16 shows turnout time compliance with incident volume by hour of the day.

Figure 16



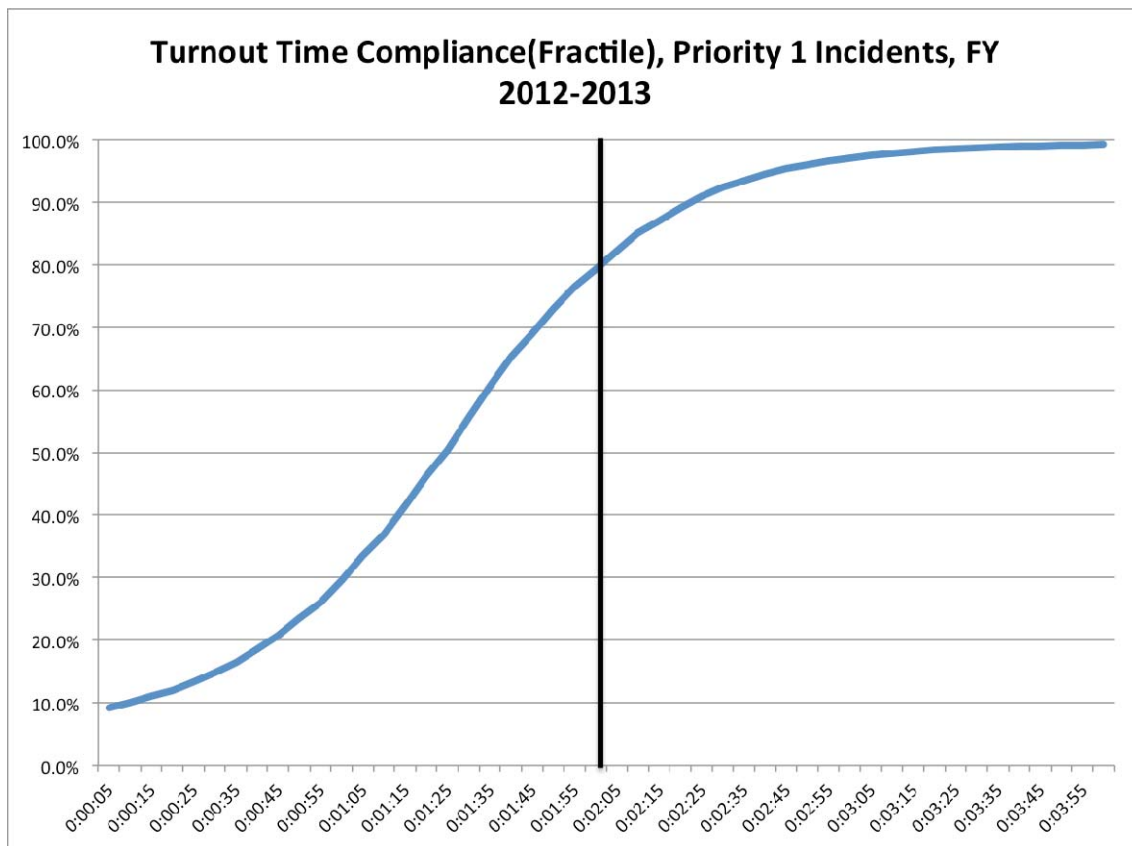
It shows a significant decrease in compliance between the hours of 2300 (11PM) and 0700 (7AM). While further analysis is needed into the causes of the decrease in performance, it could be explained, in part, by the fact that this is most likely during the time when personnel are sleeping. This requires time to get out of bed, move to the apparatus and don the appropriate protective gear.

An example would be a simple medical call. At 1300 hours, a crewmember is seated at a computer completing mandatory on-line training. To turnout for an EMS call requires mostly a walk from the crew office, which is generally a few feet from the apparatus. At 1500 hours, they may be on the apparatus driving their first due area, in which case turnout to an EMS call is almost instantaneous. But by comparison, the same call at 0330 requires the crew member to awaken, put on shorts and sneakers, walk downstairs to the apparatus, and put on acceptable attire for an EMS call including pants and station boots or turnouts and bunker boots. The difference may only be 30 seconds for all those extra tasks, but the impact may be driving these turnout times.

Certain department policies may be slowing this process, such as ‘clean station’ requirements. This is also an area that represents an opportunity for increases in compliance and therefore improvements in total response times.

Figure 17 shows fractile turnout time compliance for priority 1 incidents for FY 2012-2013.

Figure 17



Travel Time Analysis

The department has a travel time objective of 4 minutes 80% of the time. Travel time is measured from the time a unit is en route until the time it arrives on scene. This only measures the actual time that a unit arrives on scene and not when action is taken to mitigate an incident or patient contact is actually made.

NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2010 edition, sets a standard for travel times at 240 seconds for fire incidents or to place a first responder with an AED on the scene of a medical incident.

Figure 18 shows travel time compliance for priority 1 incidents by shift from July 2012-February 2014. There is not a significant variance between the shifts.

Figure 18

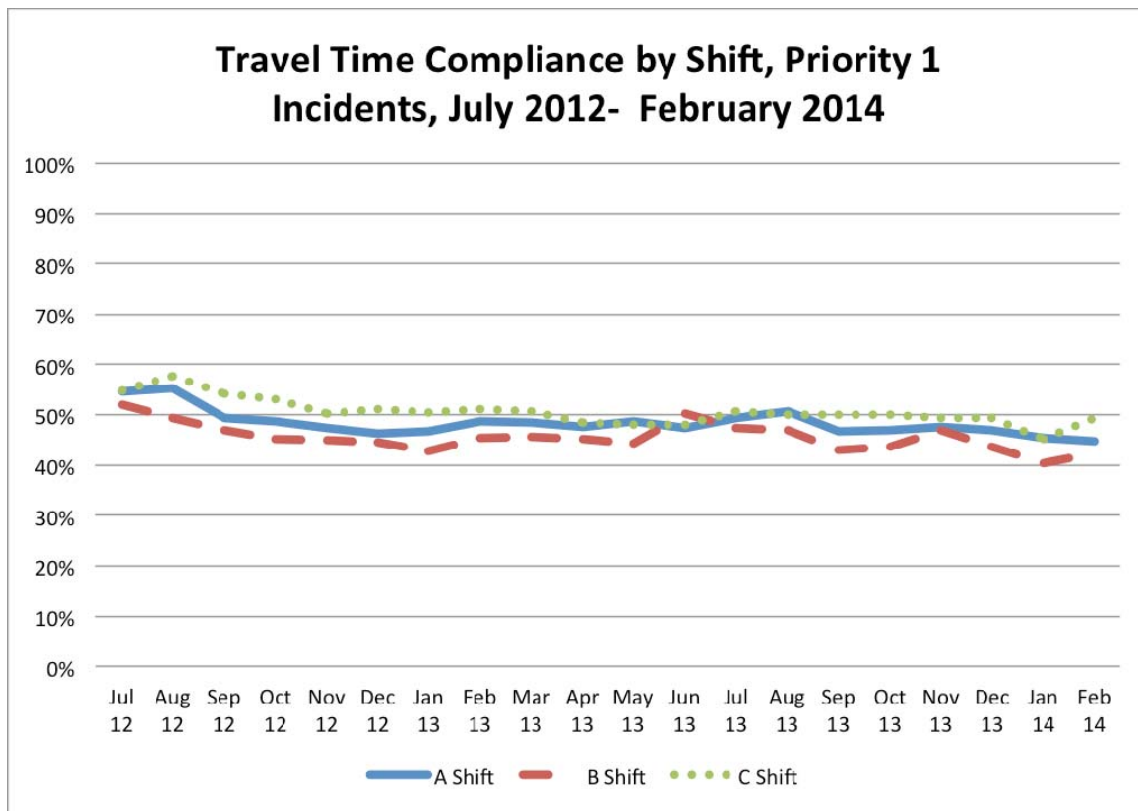
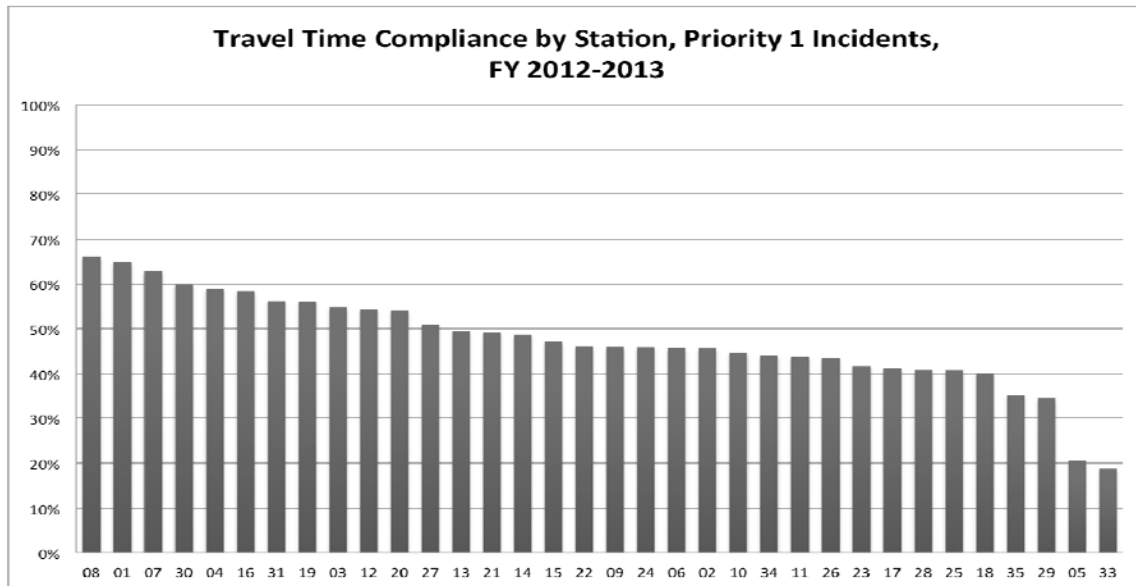


Figure 19 shows travel time compliance for priority 1 incidents by station for FY 2012-2013.

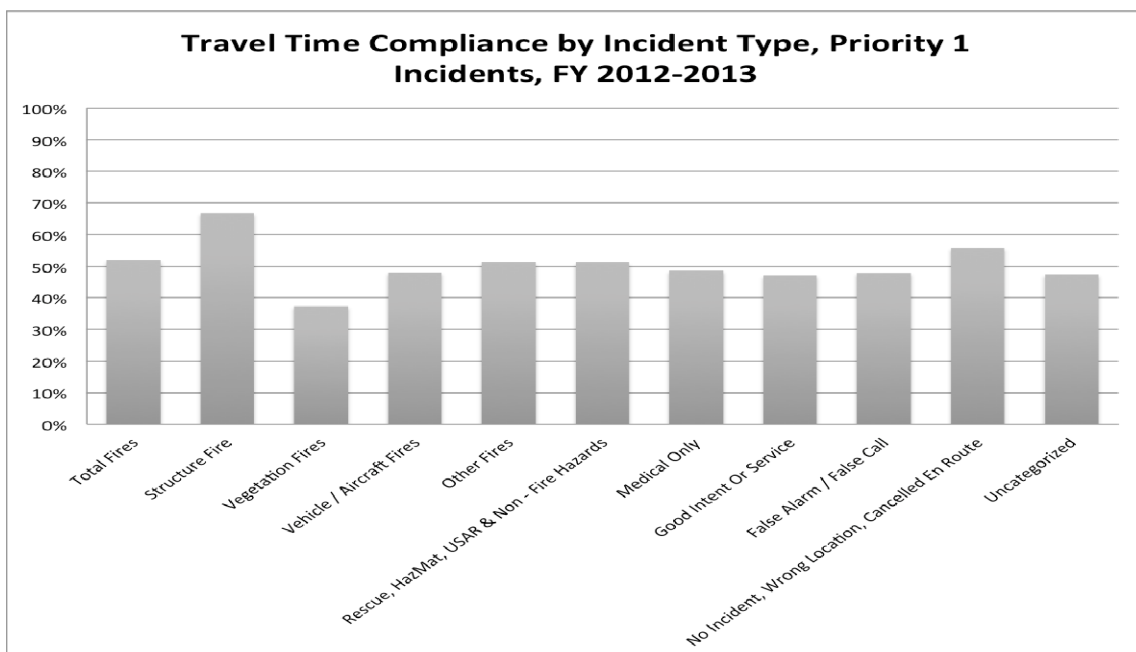
Figure 19



Further analysis is needed to determine why there is variability in compliance; however it could largely be explained by station district size, traffic patterns and station call volume. This data is also reflecting travel times to incidents by “first due area.” Busy stations that require frequent coverage by second due apparatus may see longer travel times, and slower overall response times, because those apparatus are responding from greater distances. For example, Fire Station 5 was closed for mold mitigation for much of the year, so all responses in Station 5’s first due area were covered by apparatus out of Fire Station 1, Fire Station 34, Fire Station 29, or Fire Station 23.

Figure 20 shows travel time compliance for priority 1 incidents by incident type for FY 2012-2013.

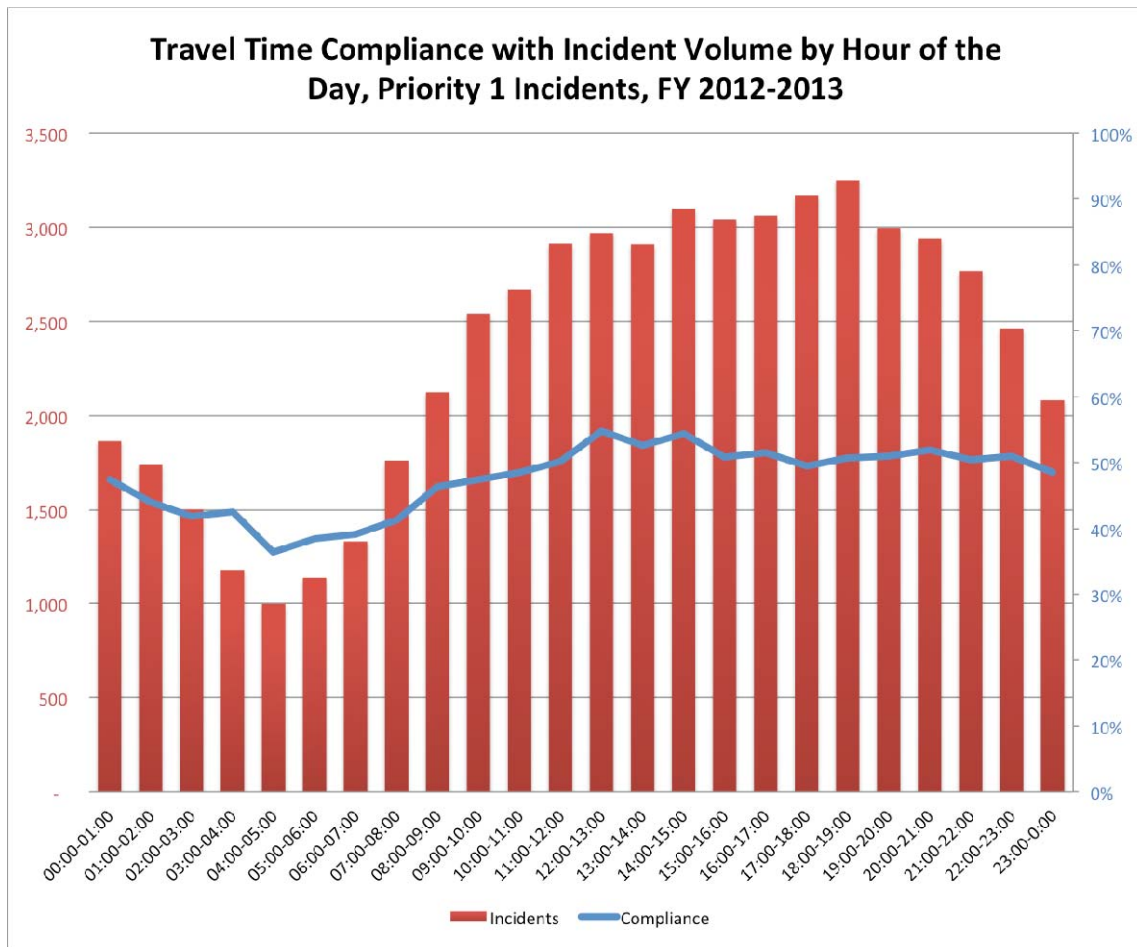
Figure 20



Structure fires have the best travel time compliance while medical calls and vegetation fires are among the lowest call types for travel time compliance. Vegetation fires typically are difficult to locate and/or are in more rural areas of the city. Travel time compliance for medical calls needs further analysis and could represent an opportunity for increased performance by the department. There are contributing factors, such as the remote location or access difficulties presented by vegetation fires, the obvious location for structure fires (column of smoke), the times of day when some incidents are more likely, and more.

Figure 21 shows travel time compliance for priority 1 incidents with incident volume by hour of the day for FY 2012-2013.

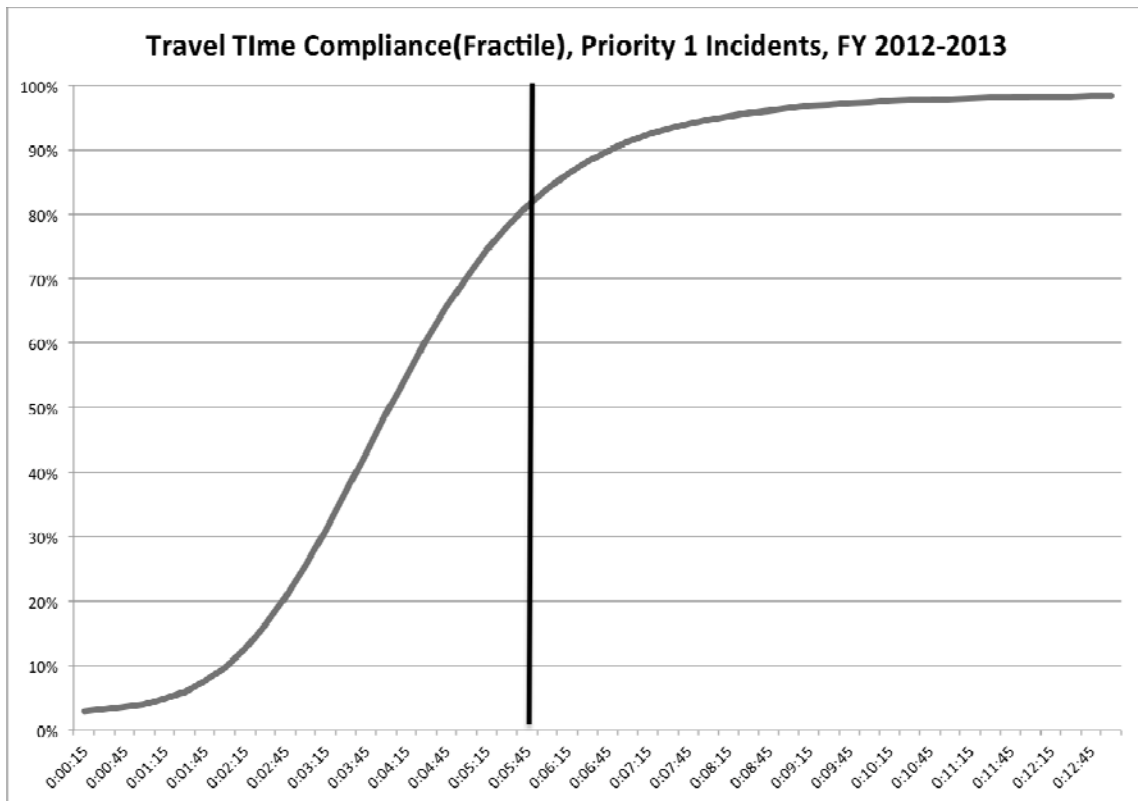
Figure 21



Compliance is the lowest between the hours of 0100(1AM) and 0700(7AM). Further analysis is needed to determine the causes of reduced compliance during these hours, when, presumably, traffic is not a factor. This also represents an opportunity for significant improvement by the department.

Figure 22 shows fractile travel time compliance for priority 1 incidents for FY 2012-2013.

Figure 22

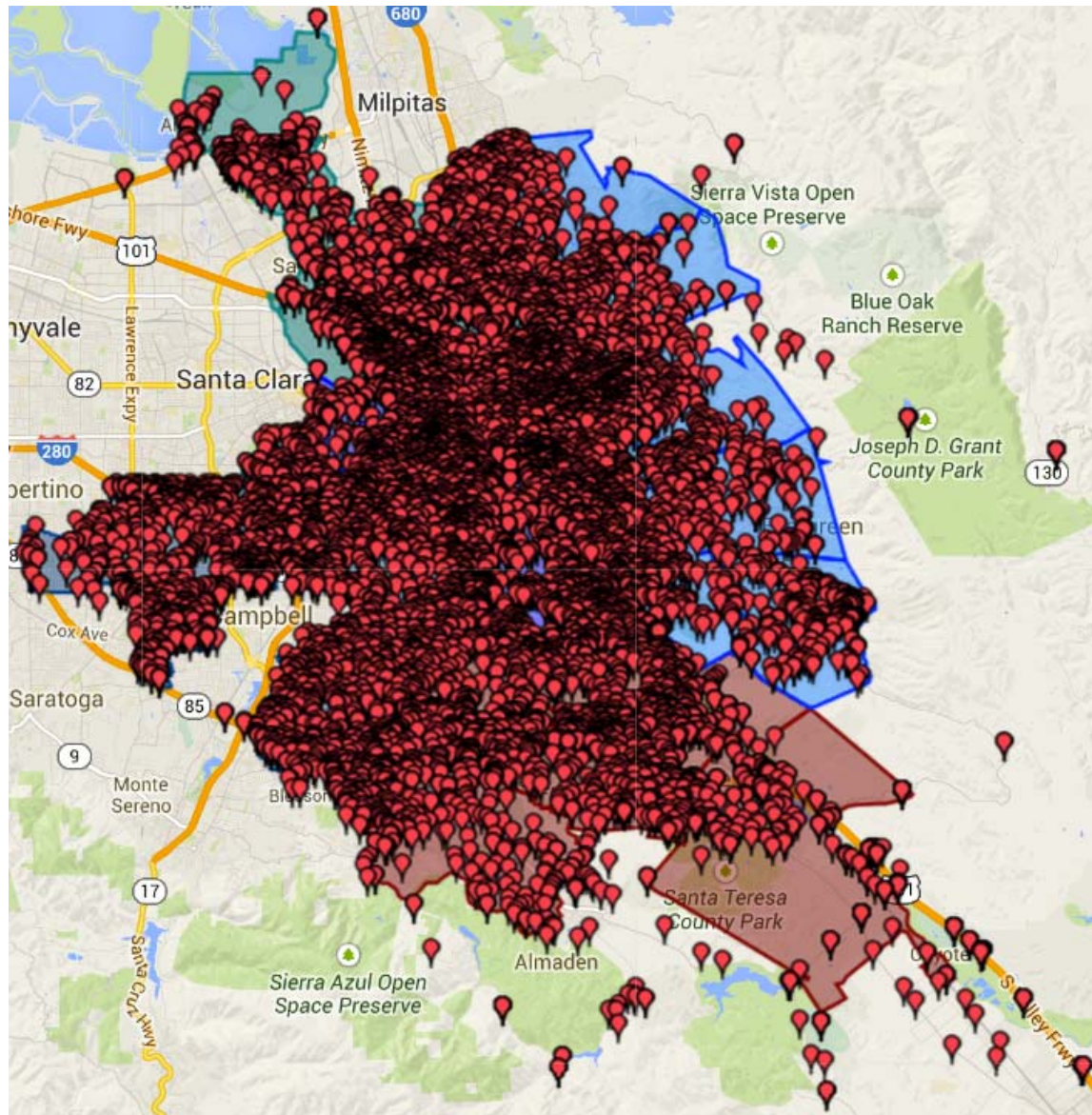


Heat Mapping/GIS Analysis

During the analysis, heat mapping/GIS analysis was employed to help identify patterns and problem areas for late responses.

Figure 23 shows all calls in which the department did not meet the response time objective.

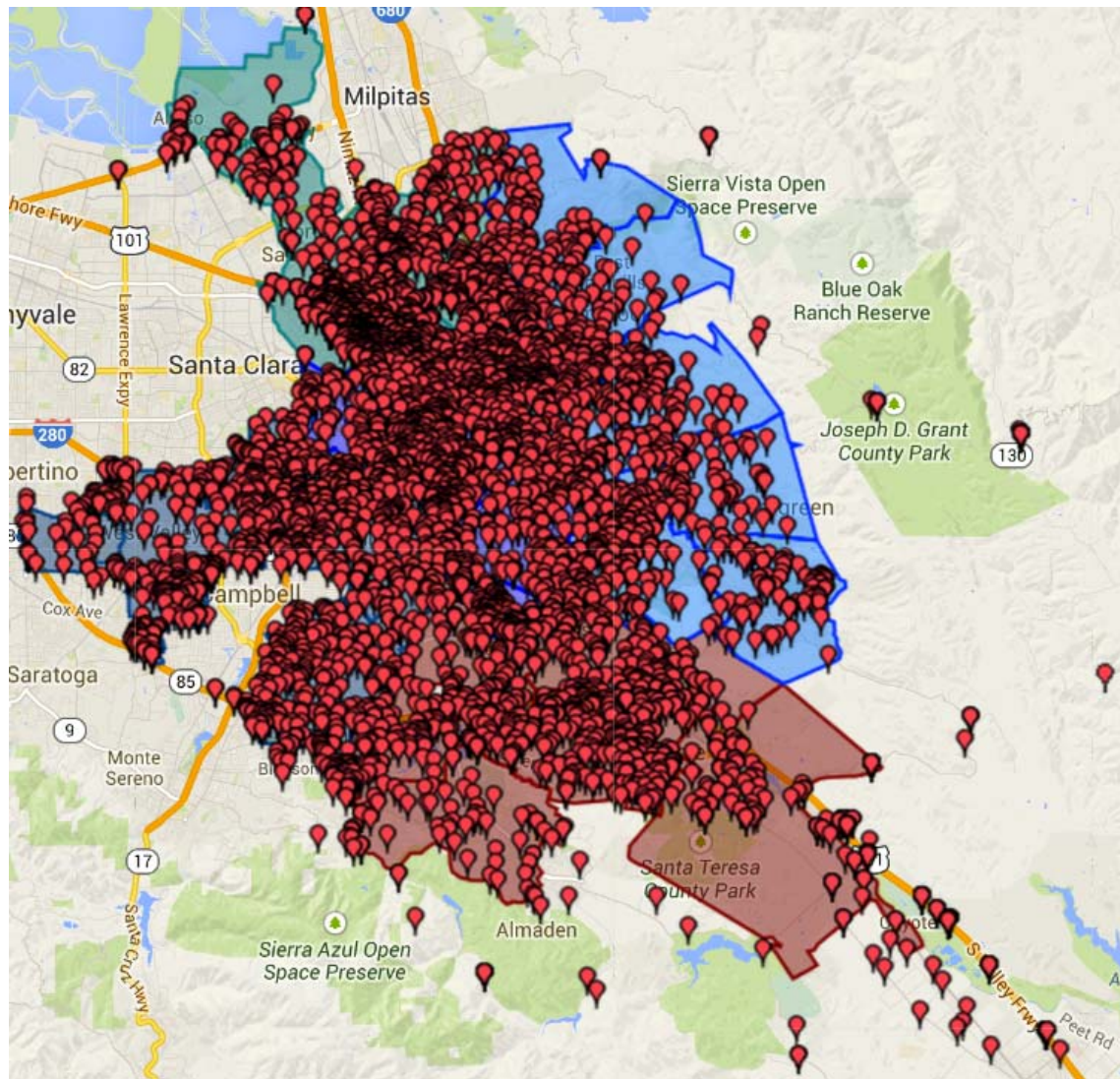
Figure 23



Examination shows that there are no consistent patterns to late responses and those late responses are a system-wide issue. This general, overall view of a performance map is not as insightful as when the performance map is broken down to measure certain types of calls, times of day (e.g. rush hour, night time), etc. The analysis thus far has found several specific system-wide issues, which may be contributing to system-wide underperformance. It will be important to thoroughly research and understand each of these issues so they can be addressed. Fixes which do not address such issues may be unnecessary, costly, overly complex, and may result in unforeseen negative effects on overall system performance.

Figure 24 shows all calls in which the first due unit was not available and where the second due unit responding did not meet the response time objective.

Figure 24

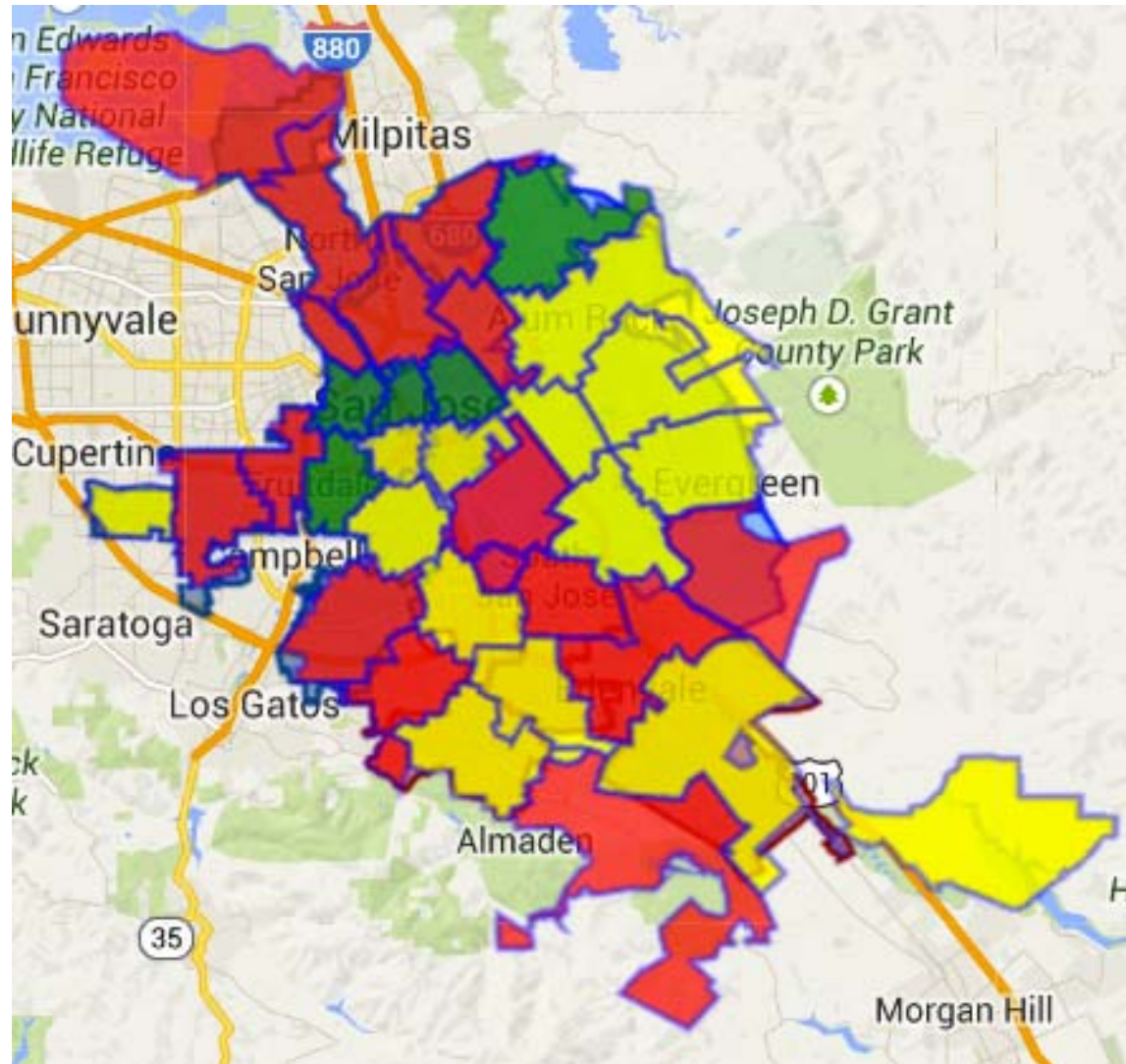


By comparing the two maps, it is clear that a significant portion of late responses are due to the first due unit being unavailable (out of service on another incident, training, apparatus maintenance, etc.) and the second due unit responding from adjacent districts.

As these maps are dynamic, the team is working on a station-by-station analysis of performance on incidents handled by 1st due vs. 2nd due apparatus as well as simultaneous calls or other out-of-service time drivers.

Figure 25 shows response time performance by station first due. The shaded green stations perform above the 80% response time objectives, the shaded yellow meet response time objectives between 70%-80% of the time, and the shaded red stations meet response time objectives below 70% of the time.

Figure 25



Further analysis is already underway to examine the heat maps in greater detail and to further stratify the late responses to identify patterns and causes.

RECOMMENDATIONS

Based upon our analysis, several areas of improvement are possible to improve the department's response time performance.

The following changes are recommended. These recommendations are general in nature and do not assess the financial implications of the changes.

- 1. Develop a plan to evaluate and implement an "Early Dispatch" policy.**
- 2. Monitoring and recording of dispatch performance on a timely and actionable basis.**
- 3. Upgrading, or replacing the current phone system within Fire Communications to a phone system that will enable tracking and integration of alarm answering time and alarm transfer time.**
- 4. A program to reduce turnout times by 40-60 seconds.**
- 5. Minimize the number of incidents handled by second due apparatus.**
- 6. Prioritize unit utilization.**
- 7. Development of a Standards of Coverage document.**
- 8. Enable a process to continuously report performance metrics.**
- 9. Update the CAD system to assist with automation and speed of performance metric reporting.**

CONCLUSION

This analysis provided an initial opportunity to assist the department in improving response times. Additional analysis should be performed to further identify problem areas and opportunities for improvement while simultaneously implementing the recommendations made in the report.

By segmenting incidents into alarm processing time, turnout time and travel time, several areas that provide opportunities for improvement with regards to response time performance were identified during the analysis. These are:

1. Reduction of alarm processing time through early dispatching and monitoring of all dispatch times to report on and measure performance. This will also allow for measuring the effectiveness of changes made to dispatch policy.
2. Reduction of turnout times to more closely conform to NPFA 1710 standards on turnout times. While reducing turnout times will not substantially increase response time performance, it could have a measurable effect on moving the department toward its response time objectives.

3. Perform additional analysis to include:
 - a. More GIS/heat mapping analysis to help further identify difficult to serve response areas, call volume, population density and demand by service area, and evaluation of Emergency Service Zones (“ESZ”) to determine whether they are rural or suburban which effects response time standards for each zone.
 - b. Further analysis of late responses with regard to first due apparatus late responses vs. second due apparatus late responses and causes of these late responses
4. Prioritizing unit utilization by researching the feasibility of creating additional event times with less stringent response time performance standards.
5. Developing a Standards of Coverage document that will assist in developing an intelligent growth strategy for the department.
6. Automate the department’s performance reporting to monitor performance and deployment changes.

DELEGATION OF AUTHORITY COVER SHEET

TO BE COMPLETED BY DEPARTMENT/AGENCY

Department Submitting: Public Health Department Fiscal Year: 2012

Board Meeting Date and Agenda Item # when Delegation of Authority was approved: 4/05/2011 #22

Contractor's Name: City of San Jose Amount of contract is? TBD

What is the maximum amount of the Delegation of Authority? \$ 5,000,000.00

What is the end date of the Delegation? July 1, 2016

How much has been approved by Contract(s) to date? _____
(Add up the total amount of all contracts under this Delegation)

Is the insurance requirement current on the online Insurance Compliance System? Yes No NA

If no, please explain: _____

Copy of the Executive Summary on the selection process is attached Yes No NA

Contact Name: Roya Rousta Contact Number: (408) 792-5108

Processing Requirements (Specific instructions to the OBA Analyst for distribution of approved copies):

Date Needed: asap Comments: Thank you.

TO BE COMPLETED BY COUNTY COUNSEL, OBA ANALYST, AND OFFICE OF THE COUNTY EXECUTIVE:

Approved by County Counsel for form and legality Yes No

Recommended for Approval by OBA Yes No

Approved by Office of the County Executive Yes No

Name/Date	
	6/28/11
	6/28/11
	6/29/11

County Counsel Comments:

OBA Comments:

Office of the County Executive Comments:

Upon execution of agreement, forward a copy and any subsequent amendment(s) to: delegations@cob.sccgov.org, together with the delegation of authority transmittal. Department retains original copy of agreement on file.

**County of Santa Clara
Public Health Department
Emergency Medical Services**



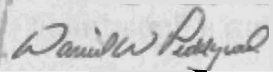
PH03 040511

Prepared by: Josh Davies
EMS Section Manager

Reviewed by: Per Schenck
Interim EMS Director

DATE: April 5, 2011

TO: Board of Supervisors

FROM: 
Dan Peddycord, RN, MPA/HA
Public Health Administrator

SUBJECT: Resolution Delegating Authority to Execute Emergency Medical Services
Provider Agreements with Santa Clara County Fire Departments/Districts

RECOMMENDED ACTION

Adopt Resolution delegating authority to Public Health Director, or designee, to negotiate, execute, amend, terminate, and take any and all necessary or advisable actions relating to contracts and contract amendments with fire departments (cities and districts) authorizing operation in the Santa Clara County Exclusive Operating Area for EMS response to 911 calls for period July 1, 2011 through July 1, 2016, following approval by County Counsel as to form and legality, and approval by the Office of the County Executive. Delegation of authority shall expire on July 1, 2016. (Roll Call Vote)

FISCAL IMPLICATIONS

There is no negative impact to the General Fund as result of this action.

Participating fire departments/districts are eligible for up to \$5M (total amount available for all departments combined) in First Responder Funding from the County contracted 911 ambulance service provider (Rural/Metro) upon meeting various performance standards determined and monitored by the EMS Agency. This fund will be held by the ambulance service provider (Rural/Metro). The EMS Agency will authorize invoices against the fund upon determining that certain performance requirements have been met by a fire department provider. Departments/districts that do not meet the established performance criteria will realize a reduction in the amount that they receive each month. The amount of deduction is then placed into the Emergency Medical Services Trust Fund for projects authorized by the Board of Supervisors.

The amount of liquidated damages (fines) is currently being refined with the assistance of the County Fire Chiefs Association and remains an important element of incentive performance for call time response and reporting. Performance exceptions related to the fire department include a provision that all liquidated damages are waived if they achieve 95% or better response time performance compliance per-month, a provision carried over from the existing agreement. When liquidated damages apply, they are deducted from a department's first responder funding allocation.

Performance requirements and liquidated damages related to fire department use of the STAR Car emergency ambulance are also included in these agreements.

CONTRACT HISTORY

In December of 2010, the Board of Supervisors approved the contract with Rural Metro of California (Rural/Metro) to provide paramedic ambulance services in the County Service Area (excluding the City of Palo Alto and Stanford Lands) beginning July 1, 2011. These agreements codify roles and responsibilities between the EMS Agency and fire departments.

In the new agreement, fire departments will contract directly with the County in order to meet Health and Safety Code requirements identified in Section 1797.204 and also to enable the fire departments to participate in First Responder Funding that is provided by Rural/Metro through their contract with the County.

In regard to first responder funding, annexes to the Agreement between the County (Public Health/EMS) and the City (Fire Department), detail various performance standards that must be met by the fire department in order to receive first responder funding allocations directly

from Rural/Metro. This occurs after the EMS Agency has verified compliance with the established performance standards. The requested term of these agreements match the five (5) year term of the agreement between the County and Rural/Metro.

Currently, fire departments are authorized through a subcontract with American Medical Response (under contract to the County) to provide paramedic level services and for the receipt of first responder funding. The revised agreement construction facilitates a direct relationship between the County, as the regulatory authority, and the fire departments. The fire departments must continue to operate under the standards prescribed in the agreement between the County and Rural/Metro (operation within the Santa Clara County Exclusive Operating Area), but are not accountable to a private vendor (Rural/Metro).

The City of Palo Alto has not previously held an agreement with the County nor has the NASA/AMES Fire Department which provides services to Moffet Field. These agreements will differ from the others as the City of Palo Alto maintains additional rights as a Health and Safety Code Section 1797.201 entity and NASA/AMES has federal exclusivity. The EMS Agency will continue to work with both organizations to execute agreements. Neither entity, however, will receive funding from the County's agreement with Rural/Metro. It is likely that these two agreements will not be executed by July 1, 2011; however no negative impacts are expected as a result.

Additionally, Section 1797.201 of the Health and Safety Code (among other related sections) is currently under review. Changes in statute and/or the addition or modification of regulations may change required provisions of the agreement with the City of Palo Alto. However, these changes are likely to benefit both the County and City of Palo Alto as additional clarity is expected to be added to the existing statute. Section 1797.201 establishes Palo Alto as its own Exclusive Operating Area. At the most basic level this means that Palo Alto must provide services at the same level or better than it provided prior to 1980 (*San Bernardino v. City of San Bernardino*, 15 Cal. 4th 909 (1997) (the "San Bernardino decision"), and *Valley Medical Transport v. Apple Valley Fire Protection District*, 17 CalAth 747 (1998) (the "Apple Valley decision"). Additionally, the Appellate Court decision in *City of Petaluma v. County of Sonoma*, 12 Cal. AppAth 1239 (1993) (the "Petaluma decision"). In practical terms this means that Palo Alto provides its own paramedic ambulance services. Palo Alto, however, must still adhere to Santa Clara County Prehospital Care Policy.

REASONS FOR RECOMMENDATION

Delegation is being requested for these agreements due to the complex nature of negotiating

one set of performance standards and associated penalties (liquidated damages) that are commonly acceptable to both the EMS Agency and all municipal fire departments and districts which participate in the First Responder Fund. In addition, delegation of signature authority provides the EMS Agency with the ability to finalize contracts with each of the various municipal and district fire department which each have different time lines and processes for endorsing these agreements. For instance, it is possible that the County may need to negotiate an interim agreement with the City of San Jose, or another city, to allow the city the time necessary to evaluate implementation of the final agreement. This delegation would provide the authority for such an agreement.

Delegation of authority is requested for a number of specific reasons.

- **Seven agreements** with fire departments (cities/districts) are to be executed by June 30, 2011 in order to synchronize with the start of the Rural/Metro contract. These agreements afford the ability of the fire departments to continue paramedic level services and to enable them to access first responder funding.
- **Two agreements** (City of Palo Alto and NASA/AMES) will not need to be executed by June 30th.
- It is anticipated that each city may request modifications to the template agreement. County Counsel's Office and city attorneys will need time to work through various modifications that will not alter the scope of agreement.
- Each city/district will need to process the agreements through their elected officials and stakeholder groups.

Section 1797.204 of the Health and Safety Code states that the local EMS agency shall plan, implement, and evaluate an emergency medical services system, in accordance with the provisions of this part, consisting of an organized pattern of readiness and response services based on public and private agreements and operational procedures. The written agreement specifies the scope of services to be provided by the fire department provider and County, and authorizes the fire department provider to utilize paramedics to deliver those services as part of an integrated Countywide EMS System.

In part, execution of this agreement will enable the fire department to provide paramedic level services and will codify the authority of the County EMS Medical Director as the medical control authority that permits Emergency Medical Technician (EMTs) and paramedic clinical care practice in the County.

In addition, fire departments that operate within the Santa Clara County Exclusive Operating Area (excluding the City of Palo Alto and NASA/AMES) are eligible for funding provided by Rural/Metro.

The provider agreement consists of a "master" agreement which addresses Health and Safety Code Section 1797.204 provisions supported by annexes that detail performance criteria for the use of fire department ambulances (City of San Jose, Santa Clara, and Gilroy only) and/or first responder funding. Departments may choose the option to participate in the provision of emergency ambulance service support (formally known as "STAR" units or Supplemental Transport Ambulance Resources) when the County-contracted ambulance provider requires assistance or if the department wishes to access available first responder funding. If fire departments choose not to participate in either emergency ambulance support and/or first responder funding, then only the "master" agreement will apply.

BACKGROUND

In April of 2009, the Health and Hospital Committee and Board of Supervisors approved the development of a Request for Proposals (RFP) for 911 Ambulance Services by the EMS Agency. Shortly thereafter the EMS Agency began a series of workshops to build an RFP cooperatively with the fire departments. The EMS Agency provided a "boilerplate" document that eventually became the RFP that was authorized by the Board of Supervisors.

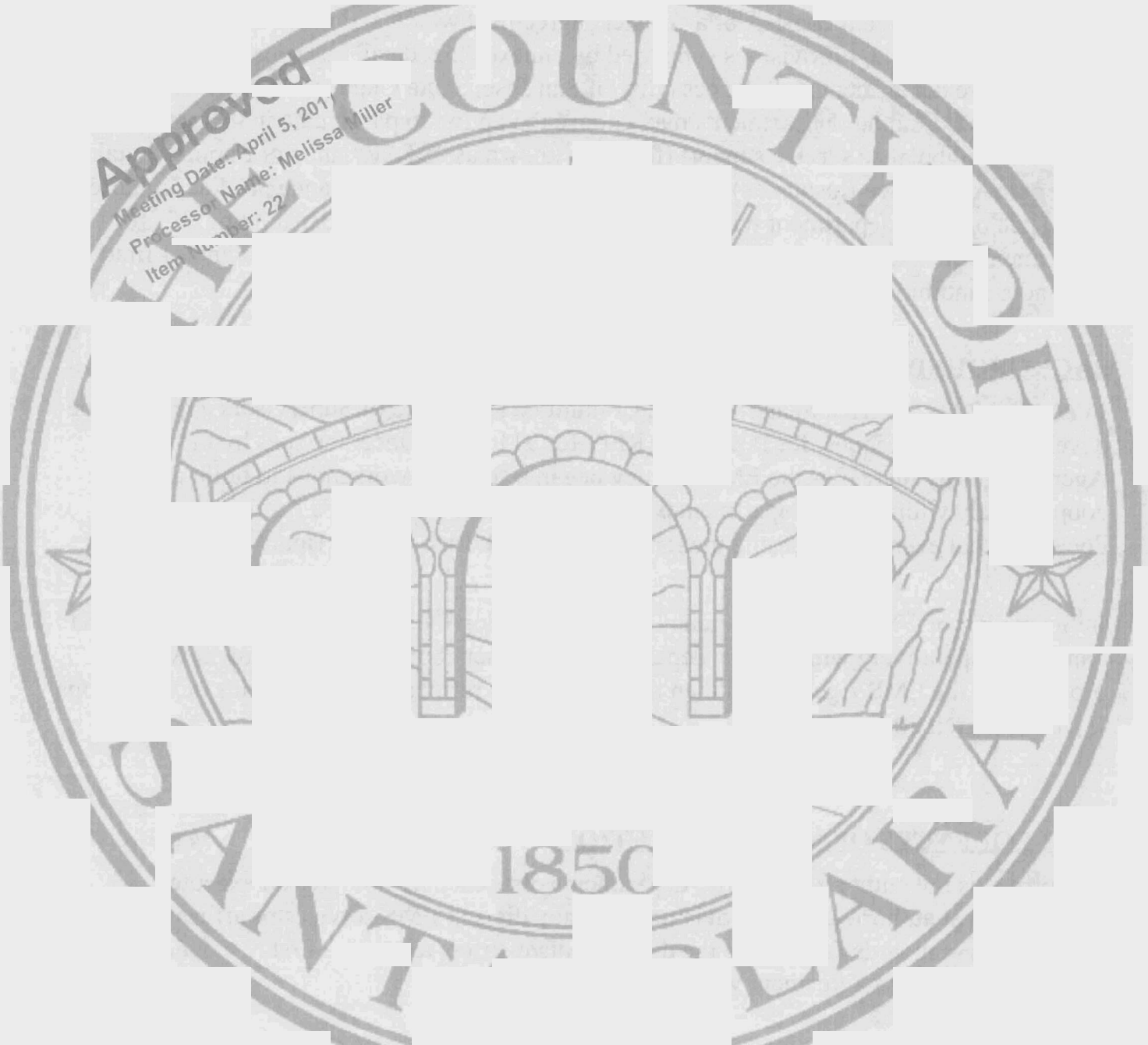
In September of 2010, the EMS Agency began to develop the EMS provider agreement and annexes cooperatively with the fire departments. Another "boilerplate" document was provided by the EMS Agency and then the content was refined through a series of workshops (11 as of March 8th).

CONSEQUENCES OF NEGATIVE ACTION

If approval is not authorized, the fire departments/districts may not have an executed agreement that authorizes their provision of paramedic and EMS services or affirms performance standards that enable the departments/districts to receive first responder funding through the County's agreement with Rural/Metro.

ATTACHMENTS

Delegation of Authority for Agreements w/Fire Departments for 911 Services



Approved
Meeting Date: April 5, 2011
Processor Name: Melissa Miller
Item Number: 22

RESOLUTION NO. 2011-203

**RESOLUTION OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF SANTA CLARA
DELEGATING AUTHORITY TO PUBLIC HEALTH DIRECTOR TO EXECUTE
AGREEMENTS WITH VARIOUS FIRE DEPARTMENTS AUTHORIZING
OPERATION IN THE SANTA CLARA COUNTY EXCLUSIVE OPERATING
AREA FOR EMERGENCY MEDICAL SERVICES RESPONSE TO 911 CALLS**

WHEREAS, Health and Safety Code Section 1797.204 states that the local EMS agency shall plan, implement, and evaluate an emergency medical services system, consisting of an organized pattern of readiness and response services based on public and private agreements and operational procedures;

WHEREAS, the Board of Supervisors has designated the Santa Clara County Public Health Department's Emergency Medical Services Agency as the County's local EMS agency pursuant to Section 1797.200 of the California Health and Safety Code;

WHEREAS, the County intends to enter into agreements with various fire departments (cities and districts) for the purpose of authorizing operation in the Santa Clara County Exclusive Operating Area for EMS response to 911 calls;

WHEREAS, the "Exclusive Operating Area" agreement specifies that fire departments will contract directly with the County in order to meet Health and Safety Code requirements identified in Section 1797.204;

WHEREAS, fire departments may be able to participate in First Responder Funding that is provided in the "Exclusive Operating Area" agreement if various performance standards are met;

WHEREAS, the Board of Supervisors may delegate contracting authority to County officials, and has done so from time to time as deemed necessary and in the interest of the County;

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APR 05 2011

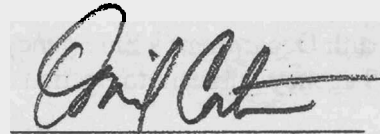
NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors delegates authority to the Public Health Director or designee, to negotiate, execute, amend, terminate, and take any and all necessary or advisable actions relating to contracts and contract amendments with fire departments (cities and districts) authorizing operation in the Santa Clara County Exclusive Operating Area for EMS response to 911 calls for the period July 1, 2011 through July 1, 2016, following approval by County Counsel as to form and legality, and approval by the Office of the County Executive. Delegation of authority shall expire on July 1, 2016.

PASSED AND ADOPTED by the Board of Supervisors of the County of Santa Clara on APR 05 2011 by the following vote:

AYES: Supervisors **CORTESE, KNISS, ~~SHIRAKAWA~~, WASSERMAN, YEAGER**

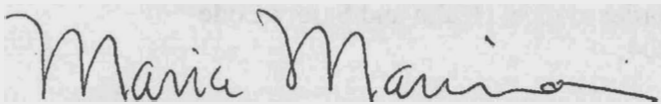
NOES: Supervisors **NONE**

ABSENT: Supervisors **SHIRAKAWA**



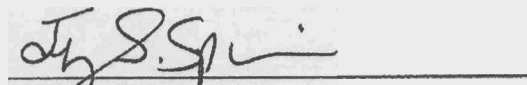
Dave Cortese, President
Board of Supervisors

ATTEST:



Maria Marinos
Clerk of the Board of Supervisors

APPROVED AS TO FORM AND LEGALITY:



Jennifer S. Sprinkles
Deputy County Counsel

Ad

911 EMERGENCY MEDICAL SERVICES PROVIDER AGREEMENT
BETWEEN
CITY OF SAN JOSE
AND
THE COUNTY OF SANTA CLARA
EMERGENCY MEDICAL SERVICES AGENCY

This Emergency Medical Services Agreement (the “Agreement”) is made by and between the City of San Jose, (“Provider”), and the County of Santa Clara (the “County”) (collectively, the “Parties”), with respect to the provision of 911 emergency medical services in the County of Santa Clara.

RECITALS

WHEREAS, the Emergency Medical Services Agency (“EMS Agency”) of the County of Santa Clara is responsible for regulating advanced life support (“ALS”) providers within Santa Clara County, and for authorizing the provision of ALS response and transport within the County; and

WHEREAS, Health and Safety Code Section 1797.178 specifies that no person or organization shall provide ALS or limited advanced life support unless that person or organization is an authorized part of the emergency medical services system; and

WHEREAS, pursuant to Health and Safety Code Sections 1797.204 and 1798, among others, the EMS Agency is responsible for system coordination, medical oversight, and support of the delivery of all emergency medical services by provider agencies such as San Jose Fire Department (“Provider”); and

WHEREAS, the EMS Agency and the Provider agree to cooperate with each other for the purpose of delivery, maintenance, and improvement of emergency medical care within Santa Clara County and the areas served by the County of Santa Clara, in order to meet the needs of Santa Clara County 9-1-1 patients efficiently and appropriately; and

WHEREAS, the Emergency Medical Services System (“EMS System”) represents a collaborative effort between the County, cities, districts and other stakeholders to assure for the timely and efficient response to emergency medical calls, and for high quality patient outcomes; and

WHEREAS, the County entered into a contract for Advanced Life Support First Response and Paramedic Ambulance Transportation for the County’s EOA, excluding the City of Palo Alto and “Stanford Lands” parcels, with Rural/Metro of California, Inc. for the period of July 1, 2011 through June 30, 2016.

WHEREAS, the EMS Agency, by this Agreement, wishes to designate Provider, and allow Provider to operate within the Santa Clara County EMS System to respond to 9-1-1 emergency medical service requests.

NOW THEREFORE, the parties agree as follows:

ARTICLE I

DEFINITIONS

1.1 Contract Administrator: shall be defined as the Emergency Services Director of the County of Santa Clara.

1.2 Contract Manager: shall be defined as the EMS Agency staff designated by the EMS Director to act as the manager of this Agreement.

1.3 Provider: shall be defined as any agency or entity providing first response at the basic life support, limited advanced life support, or advanced life support level.

1.4 The definitions included in California Code of Regulations, Title 22, Division 9, Chapters 1-9; California Code of Regulations, Title 13, Division 2, Chapter 5, Article 1 and the California Health and Safety Code, Division 2.5, Chapters 2-11, shall apply to this Agreement unless the Agreement indicates otherwise.

ARTICLE II

TERM/OPTION TO EXTEND

2.1 Term of Agreement. This Agreement shall be effective as of 12:00 a.m. July 1, 2011 and shall be in force and effect for a period of five (5) years thereafter, until 11:59 p.m. June 30, 2016.

2.2 Option to Extend. The County shall have the right to extend the term of the Agreement for two (2) additional three (3) year periods if desired by Provider. The County may exercise its right to extend the term of this Agreement by providing written notice no less than one hundred eighty (180) days prior to the expiration of the term. Upon extension of this Agreement, the Provider shall provide the services set forth in this Agreement in accordance with the terms in effect immediately prior to the extended term.

ARTICLE III

PROVIDER BREACH AND PROVISIONS FOR EARLY TERMINATION

3.1 Provider Breach. Conditions and circumstances that constitute a breach of this Agreement include, but are not limited to, the following:

3.1.1 Failure of the Provider to operate within the EMS system in a manner which enables the County and the Provider to remain in compliance with federal and state laws, rules and regulations, and with the requirements of the Santa Clara County Prehospital Care Manual and any related rules and regulations.

3.1.2 Falsification of information or data supplied by the Provider.

3.1.3 Acceptance or payment by the Provider or Provider's employees of any bribe, kickback or consideration of any kind in exchange for any consideration whatsoever, when such consideration or action on the part of the Provider or Provider's employees could be reasonably construed as a violation of federal, state or local law.

3.1.4 Failure to meet the provisions identified in this Agreement.

3.1.5 Repeated failure of Provider to provide reports, and data generated in the course of operations including, but not limited to, dispatch data, patient report data, response time data or financial data, within the time periods specified in the Agreement.

3.1.6 Failure of Provider to meet system standard of care as established by the Medical Director, following reasonable notice and opportunity to address any such failure.

3.1.7 Any failure of performance, clinical or other, required in accordance with the Agreement and which is determined by the Contract Administrator and confirmed by the EMS Medical Director to constitute an endangerment to public health and safety.

3.2 Declaration of Material Breach and County's Remedies for Performance Failures. If conditions or circumstances constituting a breach as set forth above are determined to exist, the County shall have all rights and remedies available at law or in equity under the Agreement, specifically including the right to terminate the Agreement. In the event the County determines that a material breach has occurred, the County shall provide reasonable notice of such breach to Provider. Provider shall have up to thirty (30) days to either cure the breach or provide evidence to the reasonable satisfaction of the County that a material breach does not exist. The County's remedies for material breach includes but is not limited to the ability to terminate Provider's participation in Annex A and Annex B of this Agreement. In the event the County determines that conduct or non-performance poses endangerment to public health and safety, the County may, in its discretion, decide not to allow the Provider to have a cure period.

3.3 Termination Without Cause. Either Party may terminate this Agreement at any time without cause, by giving at least one hundred eighty (180) calendar days prior written notice thereof to the other when not addressed otherwise in this Agreement.

ARTICLE IV

SCOPE OF WORK

4.1 General. The basis of this Agreement is the desire and intention of the Parties to establish and define the roles and responsibilities of the EMS Agency and the Provider relative to the delivery of comprehensive emergency medical care within Santa Clara County, and Provider does not waive or modify any present rights under any statute by its execution of this Agreement.

4.1.1 This Agreement in accordance with the intentions of the Parties, will serve as a written agreement as required under Title 22, California Code of Regulations, Sections 100167(b)(4) and 100300(b)(4), between the EMS Agency and the Provider, for the purpose of developing and maintaining the working relationship between the Parties; and

4.1.2 This Agreement does not confer any rights, privileges or ownership to the Provider to provide services and/or respond to medical emergencies requested within any of the exclusive operating areas in Santa Clara County that are not expressly detailed herein or authorized by other applicable laws such as those provided to public safety authorities, fire departments and/or districts, etc.

4.2 Non-Transport Emergency Advanced Life Support (Paramedic) First Response Services. The Provider, by this Agreement, is authorized to continue to provide the following services:

Non-transport emergency Advanced Life Support (paramedic) first-response services in order to support and/or augment the services provided by Rural/Metro within the County Exclusive Operating Area. The roles and responsibilities of the Parties in providing these services are described below.

4.3 Roles and Responsibilities of the EMS Agency. The EMS Agency shall be responsible for, but not limited to, the following:

4.3.1 Perform EMS Agency responsibilities in a spirit of cooperation and collaboration with the Provider.

4.3.2 Establish and promulgate medical control policies and EMS System procedures consistent with federal and, state law and regulations, as well as County ordinances, policies and standards.

4.3.3 In accordance with the Health and Safety Code Division 2.5, administer and coordinate the Santa Clara County EMS System.

4.3.4 Engage in efforts at local, state, and federal levels related to the procurement of necessary funding for the purpose of maintaining the Santa Clara County EMS System.

4.3.5 Collaborate with the Provider on an ongoing basis to promote the enhancement of the Santa Clara County EMS System.

4.3.6 Provide access to standardized EMS System policies and/or protocols as contained in the “Santa Clara County Prehospital Care Manual.”

4.3.7 In accordance with Title 22 of the California Code of Regulations and as approved by the EMS Agency, implements an EMS Quality Improvement Plan (EQIP) as a means of evaluating clinical emergency medical services provided.

4.3.8 Manage the hospital radio system or equivalent and provide access to the County Emergency Medical Services Communication System (the Provider shall be responsible for the cost for equipment used by the Provider to include programming, maintenance, and replacement).

4.3.9 Assess compliance with policies and procedures of the EMS System by means of scheduled reviews, which may include site visits of Provider’s program.

4.3.10 Assess the Provider’s emergency medical services program by observing, through field observations and/or attendance at the Provider-offered training, exercises, orientation, or other programs. Routine site visits will be scheduled between the Parties, when appropriate.

4.3.11 In consultation with various EMS System stakeholder committees and providers, coordinate a comprehensive emergency medical services data collection system, which includes required data elements, data analysis, report generation, and other details related to ensuring the quality of the EMS System.

4.3.12 In collaboration with the Provider, may participate in research endeavors and other programs, including, but not limited to, pilot studies.

4.3.13 In accordance with Health and Safety Code Section 1797.153, coordinate and authorize Medical Health Mutual aid through the authority of the Medical Health Operational Area Coordinator (MHOAC).

4.3.14 The EMS Agency/County EMS Medical Director shall establish and provide medical control by means of the following:

1. Develop and approve medical protocols in accordance with Title 22 and other policies pertaining to base hospitals, paramedic and EMT personnel, EMS service providers, and the EMS Agency.
2. Whenever possible, significant system-wide changes will be adopted on an annual basis to ensure there is sufficient time for advance planning and the training of all personnel. This may include clinical protocols and orders, and master plans.
3. Ensure Provider compliance with all applicable state and federal laws and regulations, including but not limited to, confidentiality and disclosure, narcotic control, mandatory healthcare reporting, as related to the provision of services under this Agreement.
4. Consult with the Provider Agency Medical Advisor through the EMS Agency's Medical Advisory Committee to develop written medical policies and procedures.

4.4 Roles and Responsibilities of Provider. Responsibilities of the Provider under this Agreement shall include the following:

4.4.1 Respond to requests for emergency medical services within Provider's authorized jurisdiction including those established through automatic and mutual aid agreements. The County will work with Provider to identify Alpha and Bravo type calls to the County Jail that will not require First Responder services (ALS or BLS) through use of the triage components of the Emergency Medical Dispatch System and protocols for clinical response and inter-facility transport.

In addition, if there are operational changes at the San Jose Norman Mineta International Airport during the Agreement period that eliminates Provider's fire department-staffed fire station on the airport grounds, then the County will consider amending this section to modify Provider's requirement to provide services within the Airport service area of its authorized jurisdiction. Provider will work with the County to ensure that sufficient transition time exists in this event.

4.4.2 Perform responsibilities of Provider in a spirit of cooperation and collaboration with the EMS Agency and the County Exclusive Operating Area ambulance provider.

4.4.3 Implement and insure adherence to the policies, guidelines and procedures of the EMS Agency as set forth in the Santa Clara County Prehospital Care Manual and all other policies, procedures and guidelines related to emergency medical services providers.

4.4.4 Comply with all applicable state and federal laws and regulations with respect to the provision of emergency medical services in Santa Clara County.

4.4.5 Place authorized units into service as identified in the County's asset permitting process and operates units as authorized.

4.4.6 Equip each approved ALS/paramedic unit with at least one portable radio capable of voice communications with base hospitals and transportable to the patient's side for the purpose of receiving direct medical control from the Base Hospital (currently, Santa Clara Valley Medical Center). Each radio shall meet the technical requirements as specified by the EMS Agency.

4.4.7 Equip each approved ALS/paramedic and BLS unit with at least one portable radio capable of voice communications with Santa Clara County Communications on the designed emergency medical services dispatch, command, and tactical channels; the EMS Agency, and Rural/Metro for the purpose of EMS System coordination.

4.4.8 Provider agrees to be subject to medical control by the local EMS agency, as specified in Health & Safety Code Section 1798 et seq., and shall comply with policies and procedures enacted by the local EMS agency in the administration of the local EMS System, and to be subject to the provision of medical direction by the County to the Provider as related to the provision of Basic Life Support Services at the Emergency Medical Technician level that exceed Health and Safety Code Sections 1797.182 and 1797.183 as applicable.

4.4.9 Have a designated physician or equivalent licensed provider (nurse practitioner or physician assistant) approved by the EMS Medical Director to address quality improvement matters. This position is not authorized to provide medical direction, but is to assist in clinical assurance and continuous quality management activities. If a non-physician is designated above, a physician shall be retained to authorize narcotic procurement and control as required by law.

4.4.10 In collaboration with the EMS Agency, Provider may participate in research endeavors and other programs, including, but not limited to, pilot studies.

4.4.11 In accordance with Health and Safety Code Section 1797.153 access all Medical Health (EMS) Mutual Aid through the Medical Health Operational Area Coordinator (MHOAC) via the County EMS Duty Chief.

1. This includes, but is not limited to requests for ambulances, medical personnel, supplies, equipment, and services.

2. Mutual aid related to paramedic staffed apparatus, other than ambulances, shall be managed through the Operational Area Fire and Rescue Coordinator. The Operational Area Fire and Rescue Coordinator shall notify the EMS Duty Chief as soon as possible and practical when paramedic resources are requested from or in to the County.

3. In order to facilitate and coordinate appropriate Operational Area Mutual Aid effectively and efficiently, nothing in this agreement shall limit the ability of the Operational Area Fire and Rescue Mutual Aid Coordinator and the Medical Health Operational Area Coordinator from agreeing to an alternative resource request process that will benefit the Operational Area.

4.4.12 Maintain, in accordance with applicable State law, licensing, certification, and accreditation of all ALS and basic life support personnel.

4.4.13 The EMS System (or other replacement system approved by the County) shall be online and available to dispatch center personnel at all times and/or available through a link to a computer aided dispatch system or transmitted from EMS System via electronic data transfer to field personnel as approved by the County.

4.4.14 Provider will participate in the Bay Area Urban Area Security Initiative funded, CAD-CAD/CROP project in order to transmit CAD data from Provider to County Communications. The transmission of data is to reduce call processing time thus reducing ambulance response times and to provide performance data reporting to the County. Provider agrees to cooperate with County Communications to complete implementation of fire/medical CAD programming. Should Provider discontinue participation in the project, Provider agrees to implement, at provider's cost, no less than a one-way CAD data link from Provider's dispatch center to County Communications by June 30, 2016.

4.4.15 Coordinate the mitigation of potential or actual emergency events with the EMS Agency (through the EMS Duty Chief or other assigned staff) when a medical or health threat exists.

4.4.16 Process emergency medical services calls through a County Authorized Emergency Medical Dispatch (EMD) program in accordance with Santa Clara County Prehospital Care Manual.

4.4.17 Deliver on-scene care supportively and cooperatively with Rural/Metro and/or other EMS System participants. This may include, but

is not limited to, accompanying the patient to the hospital in the ambulance when necessary.

4.4.18 Actively participate in disaster and emergency medical services surge planning and related drills, simulations, and exercises quarterly, as resources allow.

4.4.19 Respond to the best of Provider's ability and to the extent necessary and appropriate to any disaster, emergency medical services surge event, proclaimed or not.

4.4.20 Ensure Provider's personnel remain current and competent in the performance of EMT and/or paramedic skills as applicable.

4.4.21 Coordinate routine public information as related to the services provided under this Agreement with the County. Incident related public information shall be managed in accordance with the Standardized Emergency Management System.

4.5 Advanced Life Support Emergency Ambulance Services. Public safety responders (department of public safety/fire departments) provide the majority of basic and advanced life support first responder services in the County; the County's Exclusive Operating Area agreement with Rural/Metro does not enable fire department providers to provide ambulance transportation under routine circumstances. The use of fire department ambulances shall be operated in accordance with Santa Clara County Prehospital Care Manual and in accordance with Annex A: Santa Clara County EOA Fire Department Emergency Ambulance Authorization attached to this Agreement and incorporated by reference.

4.6 First Responder Funding. The Provider is eligible for first responder funding. Performance criteria required to receive funding is identified in Annex B: First Responder Funding in the Santa Clara County Exclusive Operating Area, attached to this Agreement and incorporated by reference.

ARTICLE V

INDEMNIFICATION AND INSURANCE

5.1 Indemnification. Provider agrees to defend, indemnify, protect, and hold County and its agents, officers, and employees harmless from and against any and all claims asserted or liability established for damages or injuries to any person or property, including injury to County's or Provider's employees, agents, or officers which arise from, or are caused, or claimed to be caused by the acts, or omissions of Provider and its agents, officers, in performing, providing, manufacturing, or supplying the work, services, product, or equipment relating to this Agreement, and all expenses of

investigating and defending against same; provided, however, that Provider's duty to indemnify and hold harmless shall not include any claims or liability arising from the sole negligence or willful misconduct of the County, its agents, officers, or employees.

5.2 Insurance. Provider shall comply with the insurance requirements attached as Exhibit H.

ARTICLE VI

COMPLIANCE WITH STATE STANDARDS AND COUNTY EOA

6.1 Compliance with State Standards. The Parties agree to comply with the California Health & Safety Code, including, but not limited to, sections 1797.201; 1797.204; 1774.224; 1797.226, as they now exist or as they may be amended from time to time. Should any amendment of the Health & Safety code materially affect this Agreement, the Parties may consider amending this Agreement.

6.2 Compliance with County EOA. This agreement may be amended, consistent with Section 7.10, from time to time if the County's agreement with Rural/Metro is modified or terminated, to ensure its application to then current conditions, policies, and protocols and provisions of the County's Exclusive Operating Area.

6.3 Compliance with Provider Requirements. County and City acknowledge that other issues may arise related to the Agreement within the first 90 days of the implementation of this Agreement and the parties agree to make reasonable amendments to address such issues.

ARTICLE VII

MISCELLANEOUS PROVISIONS

7.1 Entire Agreement. This document represents the entire agreement between the Parties. All prior negotiations and written and/or oral agreements between the Parties with respect to the subject matter of the agreement are merged into this Agreement.

7.2 Governing Law, Venue. This Agreement has been executed and delivered in, and shall be construed and enforced in accordance with, the laws of the State of California. Proper venue for legal action regarding this Agreement shall be in the County of Santa Clara.

7.3 Assignment. No assignment of this Agreement or of the rights and obligations hereunder shall be valid without the prior written consent of the other Party.

7.4 Waiver. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision as to that or any other instance.

Any waiver granted by a Party must be in writing and shall apply to the specific instance expressly stated.

7.5 Independent Provider Status. This Agreement is not intended, and shall not be construed, to create the relationship of agent, servant, employee, partnership, joint venture, or association, between either Party to this Agreement. The Provider understands and agrees that all Provider employees rendering prehospital emergency medical care services under this Agreement are, for purposes of Workers' Compensation liability, employees solely of the Provider and not of County.

7.6 Notices. Any and all notices required, permitted, or desired to be given hereunder by one Party to the other shall be in writing and shall be delivered to the other Party electronically and either personally or by United States mail, certified or registered, postage prepaid, return receipt requested, to the Parties at the following addresses and to the attention of the person named.

The EMS Agency Contract Manager shall have the authority to issue all notices which are required or permitted by County hereunder. Provider shall address all matters related to this Agreement, including notice, to the Contract Manager. Addresses and persons to be notified may be changed by one Party by giving at least ten (10) calendar days prior written notice thereof to the other.

Notices to County shall be addressed as follows:

911 Provider Contract Manager
County of Santa Clara
Emergency Medical Services Agency
976 Lenzen Avenue, Suite 1200
San Jose, California 95126

Notices to Provider shall be addressed as follows:

Debra Figone, City Manager
City of San Jose
200 East Santa Clara Street
San Jose, California 95113

7.7 Dispute Resolution

- 1) The Provider shall name specific individuals within the Provider's agency, upon execution of this Agreement, who are authorized to assist the EMS Agency with dispute resolution under this Agreement.
- 2) The Provider shall respond to written requests of the EMS Agency for information regarding any perceived dispute within five (5) business

days, unless otherwise mutually agreed, following receipt of such request.

- 3) The Provider is encouraged to resolve normal day-to-day operational concerns directly with involved parties (other EMS System providers, hospitals, etc.). If a dispute is not resolved at this level, the Provider may refer it to the EMS Agency Contract Manager for further review and action.
- 4) Disputes perceived by the Provider to have a system-wide impact should be referred directly to the EMS Agency.

7.8 No Third Party Rights. No provision in this Agreement shall be construed to confer any rights to any third person or entity.

7.9 Partial Invalidity. If for any reason, any provision of this Agreement is held invalid, the remaining provisions shall remain in full force and effect.

7.10 Amendment. No addition to or alteration of the terms of this Agreement, whether by written or verbal understanding of the Parties, their officers, agents, or employees, shall be valid unless made in the form of a written amendment to this Agreement which is formally approved and executed by the Parties.

7.11 County No-Smoking Policy. Contractor and its employees, agents and subcontractors, shall comply with the County's No-Smoking Policy, as set forth in the Board of Supervisors Policy Manual section 3.47 (as amended from time to time), which prohibits smoking: (1) at the Santa Clara Valley Medical Center Campus and all County-owned and operated health facilities, (2) within 30 feet surrounding County-owned buildings and leased buildings where the County is the sole occupant, and (3) in all County vehicles.

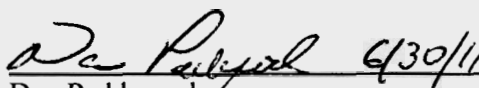
7.12 Debarment. Provider certifies that (i) employees who provide services hereunder have not been convicted of a criminal offense related to health care and that they are not listed by any federal or state agency as debarred, excluded or otherwise ineligible for participation in federal or state funded health care programs; (ii) Provider has performed an appropriate screen of these employees prior to making this certification; and (iii) it will screen all new employees who provide services under this Agreement. Provider certifies that Provider has not been convicted of a criminal offense related to health care, nor is Provider listed by any federal or state agency as debarred, excluded or otherwise ineligible for participation in federal or state funded health care programs. Provider agrees that if any of its employees providing services under this Agreement are convicted of a crime related to health care or debarred, such employees shall be removed from any responsibility or involvement in the provision of services under this Agreement once the criminal conviction or debarment is final. Provider shall notify EMS Agency of the pendency of such charges or proposed debarment or exclusion against it or against Provider's employees. Provider will indemnify, defend and hold harmless EMS Agency

for any loss or damage resulting from Provider's or Provider's employees' criminal conviction, debarment or exclusion.

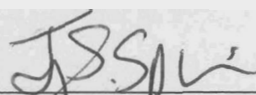
7.13 Nondiscrimination. Parties shall comply with all applicable Federal, State, and local laws and regulations. Such laws include but are not limited to the following: Title VII of the Civil Rights Act of 1964 as amended; Americans with Disabilities Act of 1990; The Rehabilitation Act of 1973 (Sections 503 and 504); California Fair Employment and Housing Act (Government Code sections 12900 et seq.); and California Labor Code sections 1101 and 1102. Parties shall not discriminate against any subcontractor, employee, or applicant for employment because of age, race, color, national origin, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability, medical condition, political beliefs, organizational affiliations, or marital status in the recruitment, selection for training including apprenticeship, hiring, employment, utilization, promotion, layoff, rates of pay or other forms of compensation. Nor shall the parties discriminate in the provision of services provided under this contract because of age, race, color, national origin, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability, medical condition, political beliefs, organizational affiliations, or marital status.

IN WITNESS WHEREOF, this Agreement is entered into this 30 day of June, 2011 by the County of Santa Clara, and the City of San Jose.

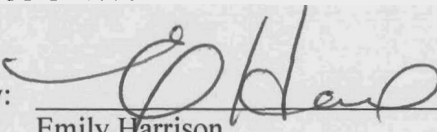
COUNTY OF SANTA CLARA

By:  6/30/11
Dan Peddycord
Public Health Department, Director


APPROVED AS TO FORM AND LEGALITY:

By: 
Jennifer S. Sprinkles
Deputy County Counsel

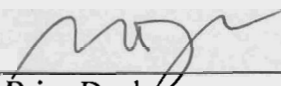
APPROVED:

By:  6/29/11
Emily Harrison
Deputy County Executive

CITY OF SAN JOSE

By: 
Norberto Duenas
Deputy City Manager

APPROVED AS TO FORM:

By: 
Brian Doyle
Senior Deputy City Attorney

Attachments:

- Annex A: Provider Authorization for Emergency Ambulance use within the Santa Clara County Exclusive Operating Area
- Annex B: First Responder Funding in the Santa Clara County Exclusive Operating Area
- Exhibit H: Insurance

Annex A

Provider Authorization for Emergency Ambulance Use Within the Santa Clara County Exclusive Operating Area

I. Purpose

This Annex is intended to authorize a public fire department with existing emergency ambulance transportation capabilities, operating within the County Service Area EOA, to continue to provide transportation services in order to augment the services provided by Rural/Metro. The use of fire department emergency ambulances is intended to provide a “safety-net” to the Santa Clara County EMS System.

Nothing in this Annex shall limit the ability of the fire department to respond to calls using a fire department emergency ambulance as an emergency response vehicle. This Annex is intended to codify when and how a fire department emergency ambulance may be used for the transportation of patients.

This Annex and associated Santa Clara County Prehospital Care Policies shall replace all previous Agreements related to the use of Supplemental Transport Ambulance Resources (STAR) by Provider in the EOA.

The County does not require any fire department in the County to provide any emergency ambulance services whatsoever except where stipulated in this Agreement.

II. Authorized Use

A fire department may not operate an emergency ambulance without the approval of the EMS Agency. Any such operation shall be a violation of the County’s Exclusive Operating Area. All fire department emergency ambulances under this Agreement shall be considered part of the Medical Health Mutual Aid System.

Departments may use emergency ambulances as an emergency vehicle for purposes of responding to service requests as authorized by applicable law. In these cases, as long as the resource is not serving or has been requested as an emergency ambulance, it shall be considered part of the Fire/Rescue Mutual Aid System.

The Provider shall pay for an ambulance service permit including individual ambulance unit permit fees approved by the Board of Supervisors, to the EMS Agency in July of each year.

III. Intended Use

The use of fire department emergency ambulances to provide patient transportation shall be permitted when (1) immediate life saving transportation is required, or (2)

material failure of Rural/Metro when emergency transport is required, or (3) delay of Rural/Metro when emergency transport is required red lights and sirens (“RLS”) or (4) when approved by the County EMS Duty Chief or County EOA EMS Field Supervisor as identified in *Santa Clara County Prehospital Care Policy 614: Fire Department Emergency Ambulance Use* (which has been attached as Exhibit 1) and may be modified from time to time consistent with *Santa Clara County Prehospital Care Policy #109*.

In addition to Provider-initiated use of fire department emergency ambulances, Provider agrees to assist the County as identified below:

When requested by the County, only the requested fire department emergency ambulance (s) shall respond. Other resources routinely dispatched with fire department emergency ambulances within their home jurisdiction shall not accompany County-requests for fire department emergency ambulances when leaving the home jurisdiction.

Table 1: Use by County of Fire Department Emergency Ambulances

Indication	Criteria	
Countywide EMS System Impact	(Standard Dispatch Order #11) From time to time, Standard Dispatch Order numbers may be revised.	
Countywide EMS System Impact	(Standard Dispatch Order #12) From time to time, Standard Dispatch Order numbers may be revised.	
Medical Health Mutual Aid System in the Region	Regional Medical Health Mutual Aid is requested and authorized by the Medical Health Operational Area Coordinator.	Provider may make emergency ambulances available for Operational Area response when requested by County.
Specialized Resource Need within the Operational Area	The County may request fire department emergency ambulances when the need for a specific resource would benefit the County.	Provider may make emergency ambulances available for Operational Area response when requested by County.

Cost of Service and Billing

The cost of fire department emergency ambulance services is the sole responsibility of the jurisdiction.

Provider shall bill for, and make reasonable efforts at collecting fees, for ambulance services provided either directly or through a third party biller which may include

Rural/Metro. Unless specified in this Agreement, Provider may not provide complementary or reduced billing for transportation services unless such relief is provided in a County approved procedure for those that may be impoverished or unable to provide immediate payment for services rendered.

Provider may not bill for ambulance response when a patient is not transported except when specifically authorized by the County or as authorized by other applicable law, ordinance, or regulation. An example may include, but is not limited to, responding to a funded SEMS mutual aid request

In the event that Provider is not able to collect or bill for a transport, the County shall not be responsible for any costs unless the County had authorized payment prior to use.

The Provider may only bill at the rates established by the County that are equal to those authorized under the County's agreement with Rural/Metro. Provider agrees that it will use practices similar to those used for billing and collecting that are used by Rural/Metro.

Provider will submit copies of all bills for ambulance service provided under this Agreement and evidence of amount actually collected to the EMS Agency in July and December of each year.

Provider shall obtain and maintain a Medicare and MediCal provider number/status and any and all other certifications that are necessary to legally bill for the services provided.

The Medicare and MediCal provider number/status shall only be used for services provided under this Agreement.

IV. Fire Department Emergency Ambulances

In addition to any standards identified in Santa Clara County Prehospital Care Policy, fire department emergency ambulances shall:

- (a) Bear the approved County of Santa Clara Emergency Medical Services seal, in at least 12 inch diameter, on both sides of the ambulance in an area approved by the County. The word "ambulance" shall not appear on the vehicle and all previously required lettering and wording must be removed prior to July 1, 2011.
- (b) Be numbered and typed according to County EMS Standards to facilitate integration into the countywide ambulance system. This numbering and typing shall not infringe on FIRESCOPE standards. The County has approved the terms "Medic" and "Rescue/Medic" as acceptable identification for fire department emergency ambulances.

- (c) Be limited to no more than 5 fire department emergency ambulances in service. For purposes of this provision, “in service” shall mean a fire department emergency ambulance used to respond to emergency calls as an ambulance for transportation. Increases in the number of fire department emergency ambulances must be authorized by the County.

V. Communications

In addition to the requirements identified in Santa Clara County Prehospital Care Policy, fire department emergency ambulances shall be equipped with radios capable of communicating with the Santa Clara County Communications and on designated frequencies. This shall include a mobile radio and at least one portable radio.

VI. Training

Provider will work collaboratively with the EMS Agency and Santa Clara County Communications to develop a fire department emergency ambulance orientation and review program for Provider’s personnel, Rural/Metro, and other EMS System participants. This program will be provided to the County and shall be updated from time to time.

Provider will participate in at least two full-scale or functional exercises per-year, in cooperation with the Rural/Metro and the EMS Agency to practice Ambulance Strike Team/Task Force operations. The EMS Agency will cooperatively schedule training annually. This training may be included as part of other exercises as long as ambulance operations are included.

VII. Response Times

Provider shall maintain records in order to provide dispatch, arrival on the scene, departure from the scene, arrival at hospital, and time available for each emergency ambulance response. These times shall be reflected on the patient care record.

VIII. Patient Care Record

A copy of the patient care record shall be provided to the County when a transport occurs.

IX. Non Ambulance Transport Requirements

Provider shall not require ambulance transportation for patients that are not in need of transport by ambulance and Provider shall offer various non-transport options to patients as approved by the County.

X. Marketing and Information Materials

All marketing and information related to Provider's emergency ambulance service must be approved by the County and contain the Santa Clara County EMS System logo.

XI. Required Staffing

Fire department emergency ambulances shall be staffed with at least one Santa Clara County Accredited Paramedic and one State certified Emergency Medical Technician that has completed the required training identified within this agreement.

XII. Supplies

The replacement of equipment and supplies used to treat and transport the patient is the sole responsibility of Provider.

Billing for such supplies to the patient shall be in accordance with the fee schedule approved for Rural/Metro (Reference: *Exhibit M, Table 2 of Emergency Medical Services Agreement between Rural/Metro of California, Inc. and County of Santa Clara*).

XIII. Utilization Review Process

Fire Department emergency ambulance use will be reviewed by the EMS Agency Contract Manager. The EMS Agency has established a mechanism for review of all fire department transports covered under this Agreement. This process is contained within the Santa Clara County Prehospital Care Manual, Reference Section which may be modified from time to time.

Transports executed in violation of the established criteria may result in penalties as identified in the table below.

Table 2: Penalty Schedule for Inappropriate Use

Detail	Fee	Notes
First violation	\$5,000.00	Penalty to be debited from the first responder incentive payment or by direct payment to the County for deposit to the EMS Trust Fund.
Second violation within 12 months.	\$5,000.00	Penalty to be debited from the first responder incentive payment or by direct payment to the County for deposit to the EMS Trust Fund.
Third (and beyond) violation within 12 months.	\$5,000.00	Penalty to be debited from the first responder incentive payment or by direct payment to the County for deposit to the EMS Trust Fund.

Fourth violation within 12 months.	\$5,000.00 per occurrence*	Penalty to be debited from the first responder incentive payment or by direct payment to the County for deposit to the EMS Trust Fund. *In addition to fines, the provider's ambulance permit may be censured including suspension or revocation.
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XIV. Payments for Damages

Provider shall make payment to the EMS Trust Fund within thirty days of notification by the County.

If Provider receives First Responder Funding as authorized in this Agreement under Annex B; liquidated damages will first be deducted from Providers annual funding allocation. If damages exceed the annual amount authorized for Provider's First Responder Funding; Provider shall make direct payment to the County.

A late payment charge of ten percent per-month will be assessed by the County if payment is not received by County on or before the 30th day if payment has not been debited from the first responder funding allocation.

Failure to make payment within thirty days may result in suspension or discontinuation of Provider's authorization to provide emergency ambulance services.

XV. Appeal of Decision

In the event that Provider disagrees with the Contract Manager's determination related to appropriate use and/or issuance of liquidated damages, a petition may be made to the Ambulance Permit Officer within thirty (30) calendar days of receipt of Contract Manager's decision.

The petition must be submitted in writing and contain the basis for the appeal, any appropriate evidence, and requested remedy.

The Ambulance Permit Officer may request additional information or base a decision on materials that have been provided by the Contract Manager and Provider. The decision of the Ambulance Permit Officer shall be final.

XVI. Annual Review

Annually, the County shall provide a report to the Board of Supervisors that describes the utilization of fire department emergency ambulances within the County Exclusive Operating Area. This report shall include, but is not limited to, Provider adherence to this agreement, evaluation of need and necessity for the service provided,

and actions taken by Rural/Metro to remedy any variances that may have caused the need for fire department emergency ambulance transportation.

XVII. Designated Liaison

Provider shall identify a liaison between the County EMS Agency and Provider for routine matters related to the provisions of this agreement.

XVIII. EMS System Orientation

Provider shall assign a representative to participate in the Santa Clara County EMS System Orientation program to assist in teaching the module related to fire department emergency ambulances as agreed upon by the Parties.

XIX. Ambulance Locations

Annually Provider shall notify the County of the locations where Provider's emergency ambulances will be routinely stationed.

Provider may station emergency ambulances at any location, but shall notify the County when the location of routinely stationed ambulances is changed.

XX. Termination

In addition to the Termination provisions in this Agreement, the following provisions apply to this Annex. The provisions contained within this Annex shall expire at the same time as the Agreement.

The parties further agree that the Santa Clara County Board of Supervisors, by a majority vote, may immediately terminate the provision of services under this Annex at any time at their sole and absolute discretion.

Exhibits:

Exhibit 1: Santa Clara County Prehospital Care Policy 614: Fire Department Emergency Ambulance Use

Exhibit 2: Santa Clara County Prehospital Care Form EMS #902: Fire Department Emergency Ambulance Use



County of Santa Clara Emergency Medical Services System

*Policy #614:
Fire Department Emergency Ambulance Use*

FIRE DEPARTMENT EMERGENCY AMBULANCE USE

Effective Date July 1, 2011
Replaces January 22, 2007

I. Purpose

To establish Policy for the use of fire department emergency ambulances in the Santa Clara County and the Palo Alto Exclusive Operating Areas for use by field responders.

Adherence to the detailed provisions required for authorization of fire department emergency ambulances is the responsibility of the County and fire department providing services, not the field providers. This Policy is intended to provide only the operational information necessary for field providers working with fire department emergency ambulances.

II. Applicability

- A. Fire Department Emergency Ambulances authorized within the Palo Alto Exclusive Operating Area are not subject to the provisions of this Policy.
- B. Fire Department Emergency Ambulances authorized within the Santa Clara County Exclusive Operating Area are not intended to provide routine transport services. They are intended to serve as an additional transport resource during times when County's contracted ambulance provider is delayed as identified in this Policy.

III. Authorized Fire Department Emergency Ambulance Transports

When the following criteria are met, patients may be transported by fire department emergency ambulances:

- A. Fire departments may initiate the transport of patients if the their authorized emergency ambulance is on the scene and the patient presents with the need for immediate life-saving transportation (with red lights/siren) for conditions such as:
 - 1. The patient is in need of a red lights/siren transport to the hospital and the County ambulance has not arrived on the scene within eighteen (18) minutes; **or**
 - 2. Cardiac or respiratory arrest; **or**
 - 3. Uncontrollable airway/inability to ventilate; **or**
 - 4. Patient Meets STEMI Alert Criteria; **or**
 - 5. Patient Meets Stroke Alert Criteria; **or**
 - 6. Patient Meets Major Trauma Victim Criteria; **or**
 - 7. If the patient is in need of immediate transportation, after appropriate on-scene care and/or assessments due to a condition that will only benefit from immediate transport.

- B. The County may authorize fire department emergency ambulance transport in the following conditions:
 - 1. When authorized by the EMS Duty Chief regardless of circumstance. The EMS Duty Chief may designate authority for authorization to the County EOA EMS Field Supervisor.
 - 2. When authorized by the County EOA EMS Supervisor during a MPMP Level 2 activation or greater, or when the EOA ambulance has mechanically failed on the scene or in route to a call.

- C. Authorized fire departments shall respond to requests by the County in the following circumstances:
 - 1. Standard Dispatch Order #11 is implemented
 - 2. Standard Dispatch Order #12 is implemented
- D. Authorized fire departments may respond to requests by the County in the following circumstances:
 - 1. Requests for out-of-County Medical-Health Mutual Aid
 - 2. Requests for specialized resource needs within the County

IV. Operations Considerations

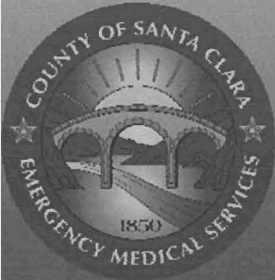
- A. Communications
 - 1. On scene fire department personnel (which may include the fire departments dispatch center) shall be responsible for requesting the estimated time of arrival of the County EOA ambulance prior to initiating patient transport.
 - 2. Once the decision to transport has been made, fire department emergency ambulance personnel shall notify County Communications on the County designed radio channel. The ambulance shall assess hospital availability prior to transport and then continue to status with County Communications to include “transporting”, “arrived at destination”, and “available”.
 - 3. Fire department emergency ambulance personnel shall adhere to all applicable Policy related to hospital communication and notification.

B. Scene Considerations

1. In the event that a patient meeting the criteria identified in Section III is secured to the ambulance gurney and the County EOA ambulance arrives on the scene, the fire department emergency ambulance shall transport.
2. In the event that the circumstance described in Section IV, B, 1 occurs; and the patient requires additional paramedic care or staffing; the County EOA ambulance paramedic shall accompany the patient in the fire department emergency ambulance if appropriate.

C. Reporting

1. On scene fire department emergency ambulance personnel shall complete EMS Form #902 immediately following transport. This form shall be routed to the County Contract Manager after review by the departments authorized representative but within 10 business days.



County of Santa Clara Emergency Medical Services System

EMS #902:
Fire Department Emergency Ambulance Use

Transport Date	Agency	County EMS Event #	Fire Agency Event #
____/____/____	<input type="checkbox"/> Gilroy Fire <input type="checkbox"/> San Jose Fire <input type="checkbox"/> Santa Clara Fire		

STEP 1:

The transporting paramedic shall select which one of the following criteria was used to make a transportation determination:

Fire Department Initiated Transport

Time County EOA Ambulance ETA was requested: _____ ETA provided: _____

- (III.A.1) The patient is in need of a red lights/siren transport to the hospital and the County **EOA AMBULANCE HAS NOT ARRIVED** on the scene **WITHIN 18 MINUTES**.
- (III.A.2) Cardiac or respiratory **ARREST**
- (III.A.3) Uncontrollable **AIRWAY** or inability to ventilate
- (III.A.4, 5, 6) **STEMI ALERT** or **STROKE ALERT** or Major Trauma Victim (**MTV**) **ALERT**
- (III.A.7) If the patient is in need of immediate transportation, after appropriate on-scene care and/or assessments due to a condition that will only benefit from immediate transport.

County Authorized Transport

- (III.B.1) **COUNTY EMS DUTY CHIEF**
- (III.B.2) **COUNTY EOA EMS SUPERVISOR**
 Select Reason: MPMP Level 2 or Greater Mechanical Failure

STEP 2:

Attach the following documents:

- Patient Care Record CAD Record with times (dispatch, on scene, transport, at hospital, available)

STEP 3:

Complete the following:

Name of Paramedic Completing Form: _____ Signature: _____ Date: _____

STEP 4:**Fire Agency Statement**

As an authorized department official, I verify that this use of a fire department emergency ambulance was appropriate.
 Representative's Signature & Date:

STEP 5

Submit to the Santa Clara County EMS Agency Contract Manager within ten (10) business days.

Meets Utilization Criteria: Yes No

Contract Manager's Signature & Date:

Annex B

First Responder Funding in the Santa Clara County Exclusive Operating Area

I. PURPOSE OF FUNDING

This Annex is intended to identify the criteria and processes related to Provider access to available first responder funding within the Santa Clara County Exclusive Operating Area (EOA). Fire departments operating within the EOA must be compliant with the provisions of the *911 Emergency Medical Services Provider Agreement* in order to be eligible for the funding opportunities afforded herein.

Provider's participation in this funding opportunity is voluntary. However, in order to receive funding, the performance criteria detailed herein must be met. Providers that choose to terminate the Agreement shall be responsible for any liquidated damages incurred while performing under the Agreement, and damages shall not exceed the allocated funding.

In the event of termination of the agreement between the County and Rural/Metro or termination of the Agreement between the County and Provider, all applicable funding opportunities will cease.

Funding is provided for meeting specific performance standards that benefit the EMS System.

II. ALLOCATIONS BY COUNTY

By July of each year, the County will issue a notice indicating the maximum amount of funding available to each Provider. The amount of eligible funding will be determined using a formula that considers, but is not limited to, increases in EOA authorized billing charges, Consumer Price Index changes, and the Provider's EMS call volume. Annual allocations may increase, remain the same, or decrease based on EMS call volume (defined as an EMS call where County EOA ambulance was dispatched), available funds, damages levied, and other factors.

Increases to first responder funding will be determined based on Section 3.5 First Responder Fees of the Agreement between the County and Rural/Metro. First responder program funding shall be subject to increase annually by 3/5 of the authorized rate of the ambulance fee increase. For example, if ambulance rates increase by 5 percent, the first responder stipend will increase by 3 percent that same year. If the ambulance fees do not increase, program funding will not decrease. However, the County shall determine the exact allocation to Provider based on the formula described above.

Any unused allocation of first responder program funding will be deposited into the EMS Trust Fund annually.

First responder funding will be allocated in two areas; *Category A: EMS Resource Management* and *Category B: Response Time Performance*, as specified below.

Category A funding allocations will be based on EMS call volume during the past calendar year. Category A funding availability for the first year of this Agreement will be based on Calendar Year 2010 EMS volume as reported to the County through the review process used under the AMR contract/subcontract which expires June 30, 2011. Category B funding will match the amount provided to eligible responders through the AMR subcontract that expires June 30, 2011.

The EMS Agency shall verify compliance with established standards and agreements prior to authorizing the payment of stipends. Rural/Metro shall make quarterly payments (in arrears) equal to one-fourth of the annual stipend to each Provider. The payment will be adjusted for debits and damages.

III. CONTINUATION OF FUNDING BEYOND FIVE YEARS

If Providers wish to request that the first responder funding program continues in the next County EOA service agreement (beyond June 30, 2016); a proposal must be submitted to the EMS Agency Director by December 31, 2013 or later as determined by the EMS Agency.

It is recommended that the Santa Clara County Fire Chiefs Association participate in developing recommendations that address collective fire service issues in addition to any city/department specific proposals. At a minimum the proposal must include the total amount requested, rationale for continuation of funding eligibility, exact performance criteria that will benefit the entire Santa Clara County EMS System.

Proposed performance standards must be specific, measurable, attainable, relevant, and time-bound. The proposed methodology must detail how funds would be distributed to participating departments, liquidated damages structures, and/or other financial considerations.

Nothing in this Agreement shall eliminate the ability of each fire department to submit individual recommendations in addition to the collective proposal identified above.

IV. CATEGORY A: EMS RESOURCE MANAGEMENT

The purpose of Category A (EMS Resource Management) is consistent with utilizing CAD to CAD data and associated reporting of event data as well as the continued use of Emergency Medical Dispatch (EMD) and the Medical Priority Dispatch System (MPDS) to more effectively and efficiently deploy and utilize emergency medical resources.

Category A funding is calculated using the following formula:

$$\frac{[\text{Total Funds Allotted for EMS Resource Management}]}{[\text{Previous Calendar Year Total EMS Events for all First Responder Agencies}]} \times [\text{Previous Calendar Year Total EMS Events for Individual First Responder Agency}] = [\text{Total Allotment for Current Calendar Year}]$$

Example:

$$\frac{[\$100]}{\text{Allotted Funds}} \div \frac{[50]}{\text{CY10}} \times \frac{[10]}{\text{CY10}} = \frac{[\$20]}{\text{CY11}}$$

In order to receive funding, Provider must meet the performance standards described herein.

Performance standards in this section include the following:

1. Reduction in Unnecessary Ambulance Response
2. Emergency Medical Dispatch Assessment Project
3. Use of Medical Priority Dispatch System

A. Reduction in Unnecessary Ambulance Response

In order to better allocate County EOA ambulances, Provider agrees to cooperate with the County and Rural/Metro to reduce unnecessary ambulance dispatches and/or cancel ambulances when appropriate.

In order to facilitate this process, Provider shall submit biannual reports demonstrating a review of all calls that resulted in no patient being transported. At a minimum this report shall contain (1) total number of responses where a patient was not transported, (2) the reason the patient was not transported, and (3) the Medical Priority Dispatch System determinant that was used if known. Analysis of this data by the EMS Agency will enable the review of policies and procedures so that adjustments may be made if necessary.

The Provider agrees to work cooperatively with the EMS Agency to develop and implement operational practices to continuously reduce inappropriate ambulance use.

Providers are required to submit the report by the last business day in January (period of July-December) and July (period of January to June) of each year. If Provider fails to provide the report, damages of \$ 250.00 per-day or portion thereof, may be levied by the County, up to a maximum of \$2,500.00 per reporting period. No funds will be made available to the Provider until the report is submitted to the EMS Agency.

B. Emergency Medical Dispatch Assessment Project

The purpose of this project is to determine the most effective use of Emergency Medical Dispatching (EMD) and Medical Priority Dispatch System (MPDS) use and to identify objective criteria and establish benchmarks that may be used to improve system efficiencies and patient outcomes. In order to develop a comprehensive recommendation to the EMS Agency, Provider agrees to cooperate with the County and Rural/Metro to assess and make recommendations related to the use of EMD and/or MPDS. The intention of this project is to help provide funding to Provider to work with the EMS Agency to develop, implement and revise the Santa Clara County Prehospital Care Manual and/or standard operating procedures related to EMD. Provider agrees to collaborate with the Santa Clara County Fire Chiefs Association to make recommendations to the EMS Agency related to this project. The EMS Agency shall coordinate this effort and will include other appropriate stakeholders as necessary.

C. Medical Priority Dispatch System Use

The use and reporting of MPDS is a critical tool in assessing the type of EMS calls processed through a dispatch center. In addition, the provision of pre-arrival medical and safety instructions to the caller from the dispatcher is a key component in starting medical care as soon as possible.

As fire departments are currently using MPDS, the following performance standards apply for eligibility for funding in this section of Category A funding.

Table 1: Medical Priority Dispatch System Use

Period	Standard	Validation
Fiscal Year 2012	In addition to pre-arrival instructions, the Medical Priority Dispatch System is used to initiate call triage no less than 30% of the time when use is possible and appropriate.	Yes/No
Fiscal Year 2013	In addition to pre-arrival instructions, the Medical Priority Dispatch System is used to initiate call triage no less than 35% of the time when use is possible and appropriate.	Yes/No
Fiscal Year 2014	In addition to pre-arrival instructions, the Medical Priority Dispatch System is used to initiate call triage no less than 40% of the time when use is possible and appropriate.	Yes/No
Fiscal Year 2015	In addition to pre-arrival instructions, the Medical Priority Dispatch System is used to initiate call triage no less than 45% of the time when use is possible and appropriate.	Yes/No

Fiscal Year 2016	In addition to pre-arrival instructions, the Medical Priority Dispatch System is used to initiate call triage no less than 50% of the time when use is possible and appropriate.	Yes/No
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C.1 Validation/Required Reporting:

Data reporting for Table 1 shall include (1) the total EMS calls per-month, (2) total number of calls that were processed using MPDS, and (3) the MPDS call determinant that was used. The data must be in computer-readable format, suitable for statistical analysis and integrate with “FirstWatch”. Once CAD/CAD is in place, reporting may be automated. Provider will have 60 days to implement changes to required reporting elements.

C.2 Liquidated Damages:

Providers are required to submit the report by the last business day in January (period of July-December) and July (period of January to June) of each year. If Provider fails to provide the report, damages of \$ 250.00 per-day or portion thereof, may be levied by the County, up to a maximum of \$2,500.00 per reporting period. No funds will be made available to the Provider until the report is submitted to the EMS Agency.

If Provider fails to meet the requirements contained in Table 1, 50% of eligible Category A funds will be deducted for each month where compliance was not achieved and the amount of damages deposited in to the EMS Trust Fund. The amount of damages shall not to exceed the total available Category A funding allocation.

Within any consecutive twelve month period, three or more occurrences of meeting less than the required percentage in Table 1 100% of the remaining eligible funds will be deducted as a penalty and placed into the EMS Trust Fund. Continuation of the Provider in the Category A funding eligibility will be restored upon Provider meeting the standards prescribed in Table 1 for no less than three consecutive months and will be at the sole discretion of the County.

V. CATEGORY B: RESPONSE TIME PERFORMANCE

Each participating Provider must meet the response time criteria included in Tables 3, 4, and 5 and provide at least one paramedic per-response classified as Charlie, Delta, Echo, or a response that has not been classified and has implemented Emergency Medical Dispatch (Medical Priority Dispatch System) in accordance with Santa Clara County Prehospital Care Manual shall be eligible for funding.

Providers not providing paramedic level service and/or those not operating in accordance with Santa Clara County Prehospital Care Manual related to the clinical aspects of emergency medical dispatch shall not be eligible for funding. An annual allocation will be held in reserve should the Sunnyvale Department of Public Safety

implement a paramedic program within its jurisdiction. Until that time, the funding will be deposited into the EMS Trust Fund and used for Countywide system enhancements. The funds shall not accrue for use by City of Sunnyvale, Department of Public Safety.

A. Compliance Performance Standard

Satisfactory compliance is achieved when 90 percent or more of responses in each code of response (both Red Lights and Sirens and non-Red Lights and Sirens) meet the specified response time requirements. The County encourages Provider to utilize EMD to make the best use of its Advanced Life Support units. Provider is encouraged to implement Basic Life Support First Response to 911 emergency medical services calls that are classified as Alpha and Bravo level calls.

Urban, Suburban and Rural/Wilderness classifications are defined by population density. Table 2 identifies the formula for determining each classification.

Table 2: Population Density for Geographic Areas

Classification	Population
Urban	>101 people per square mile
Suburban	51-100 people per square mile
Rural / Wilderness	<50 people per square mile

Table 3: Response Time Requirements in the Urban Response Zone

Dispatch Classification	Provider Maximum Response Time	Notes
MPDS Classification: Alpha	12:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Bravo	7:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Charlie	7:59	First Response ALS
MPDS Classification: Delta	7:59	First Response ALS
MPDS Classification: Echo	7:59	First Response ALS
Non-Triaged or Non-MPDS Classified	7:59	First Response ALS

Table 4: Response Time Requirements in the Suburban Response Zone

Dispatch Classification	Provider Maximum Response Time	Notes
MPDS Classification: Alpha	14:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Bravo	9:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Charlie	9:59	First Response ALS
MPDS Classification: Delta	9:59	First Response ALS
MPDS Classification: Echo	9:59	First Response ALS
Non-Triaged or Non-MPDS Classified	9:59	First Response ALS

Table 5: Response Time Requirements in the Rural and Wilderness Zones*

Dispatch Classification	Provider Maximum Response Time	Notes
MPDS Classification: Alpha	21:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Bravo	11:59	First Response unit <i>ALS or BLS</i>
MPDS Classification: Charlie	11:59	First Response ALS
MPDS Classification: Delta	11:59	First Response ALS
MPDS Classification: Echo	11:59	First Response ALS
Non-Triaged or Non-MPDS Classified	11:59	First Response ALS

*Hard to serve areas apply.

B. Response Time Measurement

The following methods shall be used to measure response times.

C. Response Time Clock

For purposes of measuring response intervals, the Response Time Clock (RTC) shall be the time displayed by Provider's Computer Aided Dispatch (CAD) system.

D. Time Intervals for Response Reporting

Response intervals will be measured from the time the call is dispatched by the PSAP until the Provider's apparatus arrives at dispatched incident location. Response time intervals may also be measured using technologies such as GPS, AVL, proximity reporting, etc. as approved by the County. In situations where Provider has responded to a location other than directly to the scene (e.g. staging areas for hazardous scenes, or non-specific highway locations), arrival "on scene" shall be the time that Provider's apparatus arrives at the designated staging point or other location.

A "dispatch" shall be defined as the broadcast, by any means, of (1) incident location or suspected location and (2) unit identification for a (3) known or suspected call for emergency medical services.

Provider may issue an "alert" prior to the dispatch for the purpose of preparing response personnel and decreasing response time. An "alert" shall be defined as a broadcast, by any means, of (1) incident location or suspected location and (2) information that indicate an emergency medical response may be necessary. The selection and notification of a specific unit shall constitute a "dispatch", not an "alert". If an "alert" is not cancelled or changed into a "dispatch" within sixty (60) seconds of initiation it shall constitute a "dispatch".

If Provider's unit fails to report "on scene," the time of the next communication with Provider's dispatch center will be used as the "on scene" time unless other County approved validation systems are in place to accomplish the same tracking (AVL, GPS, Mobile Data Computers, etc.).

Medically trained first responders, law enforcement officers, authorized communications center personnel, and the County may initiate downgrades or cancellation of Provider response to medical calls. This shall not limit the Provider's ability to continue, cancel, or modify their resources response to the incident.

If Provider is cancelled by an authorized agency, after an assignment has been made but prior to the arrival, the response time clock will stop at the moment of cancellation. If the elapsed response time at the moment of cancellation exceeds the response time requirement for the assigned priority and zone of the call, the unit will be determined to be "late."

If an assignment is downgraded prior to arrival to the scene, the lower priority response time standard will apply.

If an assignment is upgraded prior to arrival on the scene, the response time clock will rest at the time the upgrade is dispatched and compliance with response time standards will be the shorter of (a) the non-Red Lights and Sirens (RLS) response requirement measured from the time the unit was originally dispatched, or (b) the RLS response times measured from the time of the upgrade.

If the elapsed response time at the moment of cancellation is less than the response time requirement for the assigned priority and urbanization coding of the call, the providers response time shall not be included in the aggregate overall fractile response time compliance, but will be reported monthly to the County.

E. Response Time Exceptions and Exemption Requests

The following responses are automatically exempt from response time calculations: Responses outside the County's EOA; Responses in established Hard to Serve Areas (HSA) as identified in EMS Policy 830, as the same may be amended or renumbered from time to time; and/or substantiated Provider dispatch center failures.

Equipment failures, traffic congestion, unit mechanical failures, and inability to staff units and other causes are not automatically grounds for granting an exemption to compliance with the response time requirements.

In the case of a Multiple Patient Management Plan Activation II or greater, response time performance may be waived by the County.

In the event of a proclamation of local emergency or disaster within the Provider's district or city or by the County of Santa Clara; response time performance may be waived by the County.

If Provider believes that any response or group of responses should be excluded from the compliance calculations due to "unusual factors beyond the Provider's reasonable control," the Provider may provide detailed documentation and request that these runs be excluded from response time calculations and associated damages. Any such request must be made in writing and in accordance with the County's Exemption Review Process. Examples may include, but are not limited to, greater alarm structure or wild land fires, provision of mutual aid.

VI. LIQUIDATED DAMAGES FOR FAILURE TO COMPLY

The Provider understands and agrees that the failure to comply with any performance standards or other requirements in this Annex will result in loss of benefit to the County and that it will be impracticable to determine the actual amount of damage whether in the event of delay, nonperformance, failure to meet standards, or any other deviation. Therefore, the Provider and County agree to the liquidated damages specified in this Annex.

It is expressly understood and agreed that the liquidated damages amounts are not to be considered a penalty, but shall be deemed, taken and treated as reasonable estimate of the damages. It is also expressly understood and agreed that County's remedies in the event of the Provider's breach or any noncompliance, are not limited to this Annex. Chronic failure to comply with the response time or other performance requirements may constitute breach of contract.

Superior response time performance during one part of the month shall not justify inferior response time performance during the remainder of the month.

Responses to requests for service originating outside of the Provider's service area (excluding automatic aid agreements) will not be counted in the number of total EMS calls used to determine response time under this Agreement.

When Provider responds to another Provider's jurisdiction as part of an executed automatic aid agreement, the entity holding authority for response shall be responsible for insuring response time compliance and shall pay any applicable damages. All automatic aid agreements related to response to EMS calls must be provided to the County annually for the purpose of verification of responsibility for EMS service coverage to a given areas within the County.

VII. LIQUIDATED DAMAGES FOR LATE RESPONSES

Liquidated damages will accrue for each response that exceeds the response time requirements.

Table 6: Liquidated Damages for Response Time Non-Performance

RESPONSE TIME PERFORMANCE LIQUIDATED DAMAGES			
Per Response			
<i>Amount that Response Time is Exceeded</i>			Fine per-response
Urban	Suburban	Rural Wilderness	
Up to 2:59	Up to 2:59	Up to 2:59	\$50
3 to 4:59	3 to 4:59	3 to 4:59	\$100
5 - 9:59	5 - 9:59	5 - 9:59	\$250
10 - 14:59	10 - 14:59	10 - 14:59	\$500
15 - 19:59	15 - 19:59	15 - 19:59	\$1,000
20 - 24:59	20 - 24:59	20 - 24:59	\$2,500
25 - 34:59	25 - 34:59	25 - 34:59	\$5,000
35+	35+	35+	\$7,500

Provider's late responses will accrue fines up to, but not exceeding, the amount of the allocated first responder funding for Provider. The liquidated damages amount shall increase according to the number of minutes the unit is delayed past the mandated response time.

VIII. PROVIDER FINANCIAL HARDSHIP

If Provider experiences an unusual hardship resulting from the accumulation of liquidated damages that extends beyond three (3) reporting periods related to the inability to meet the established response time performance criteria, and has implemented a corrective action plan, the Provider may submit a written request for temporary financial relief to the Contract Manager.

This request must clearly identify the reason for the hardship, a proposed corrective action plan (must include actions that have already been completed and additional remedies), and timeline for meeting compliance.

At a minimum the request must include how the Medical Priority Dispatching System (MPDS) has been implemented using the most appropriate resource for the call type; how non-paramedic units have been used on calls classified as Alpha and Bravo; and the reason that Provider has not been able to arrive on the scene in accordance with the established response time criteria.

Requests must be received in writing within fifteen (15) days after the close of the calendar month. Requests not submitted within fifteen (15) days after the close of the calendar month will not be considered. The Contract Manager will review the request and provide a disposition within thirty (30) business days.

IX. MONTHLY NON-COMPLIANCE

Ninety percent (90%) response time compliance in each dispatch classification as adjusted for exemptions shall be considered compliant with this Agreement.

The Provider shall be deemed in material breach of contract if the Provider fails to meet the response time requirements for at least 90% of responses each month for three consecutive months or for four months in any 12 month period. A material breach of contract may result in termination of the ability to participate in the first responder funding program and may result in the forfeiture of first responder funding.

X. INCENTIVE FOR SUPERIOR RESPONSE TIME PERFORMANCE

For every monthly reporting period in which Provider's compliance with response time requirements exceeds 95% for each response time priority classification no per minute liquidated damages shall accrue for the monthly reporting period. All liquidated damages for per call response times shall be forgiven for any month in which Provider meets or exceeds 95% compliance with response time performance standards.

XI. REMEDIES

If circumstances constituting a material breach as set forth above are determined to exist, and the Provider fails to cure such breach, the County shall have all rights and remedies available at law or in equity under the contract, including termination of the Agreement. The County may pursue one or more remedies, at any time; provided, however, that pursuing any remedy shall not be deemed an election of remedies by the County precluding the exercise of another remedy by the County.

XII. REQUIRED RESPONSE TIME DATA REPORTING

Within thirty (30) calendar days of the close of each calendar month, Provider will submit a report detailing its response time performance data during the immediately preceding month (reporting period) in a manner and format acceptable to the County. If a Provider fails to provide the report, damages of \$250.00 per-day or portion thereof, may be levied by the County.

Once a CAD to CAD link has been established that provides data directly to FirstWatch, the Provider shall provide to the County daily response time performance data in a format approved by the County, transmitted each day.

XIII. PAYMENTS FOR DAMAGES

The total amount of damages will be deducted from the payment due to the Provider and will be deposited into the EMS Trust Fund.

XIV. APPEAL OF DECISION

In the event that Provider disagrees with the determination by the Contract Manager related to appropriate use and/or issuance of penalty, a petition may be made to the Contract Administrator within 30 business days of receipt of Contract Manager's decision.

The petition must be submitted in writing and contain the basis for the appeal, any appropriate evidence, and requested remedy.

The Contract Administrator or delegate may request additional information or base a decision on materials that have been provided by the Provider and EMS Agency staff. The decision of the Contract Administrator shall be final.

EXHIBIT H

INSURANCE

I. Insurance and Indemnification

Without limiting the Contractor's indemnification to the County, the Contractor shall provide and maintain, at its sole expense, during the term of the Contract, or as may be further required herein, the following insurance coverages and agreements:

A. Evidence of Coverage

Prior to commencement of the Contract, the Contractor shall provide a Certificate of Insurance certifying that coverage as required herein has been obtained. The County's Special Endorsement form shall accompany the certificate. Individual endorsements executed by the insurance carrier may be substituted for the County's Special Endorsement form if they provide the coverage as required. In addition, a certified copy of the policy or policies shall be provided by the Contractor upon request.

This verification of coverage shall be sent to the requesting County department, unless otherwise directed. The Contractor shall not receive a Notice to Proceed with the work under the Contract until it has obtained all insurance required and such insurance has been approved by the County. This approval of insurance shall neither relieve nor decrease the liability of the Contractor.

B. Qualifying Insurers

All coverages, except surety, shall be issued by companies which hold a current policyholder's alphabetic and financial size category rating of not less than A V, according to the current Best's Key Rating Guide or a company of equal financial stability that is approved by the County's Insurance/Risk Manager.

C. Insurance Required1. Commercial General Liability Insurancea. Coverage Limits

Contractor shall obtain and maintain commercial general liability insurance for bodily injury (including death) and property damage which provides limits as follows:

(i)	Each occurrence	-	\$5,000,000
(ii)	General aggregate	-	\$5,000,000
(iii)	Products/Completed Operations aggregate	-	\$5,000,000

- (iv) Personal Injury - \$5,000,000

A minimum of 50% of each of the aggregate limits must remain available at all times unless coverage is project specific.

b. Scope of Coverage

General liability coverage shall include:

- (i) Premises and Operations
- (ii) Products/Completed
- (iii) Contractual liability, expressly including liability assumed under this Agreement.
- (iv) Personal Injury liability
- (v) Owners' and Contractors' Protective liability
- (vi) Severability of interest

c. Endorsements

General liability coverage shall include the following endorsements, copies of which shall be provided to the County:

- (i) Additional Insured Endorsement:

Insurance afforded by this policy shall also apply to the County, and members of the Board of Supervisors of the County, and the officers, agents, and employees of the County, individually and collectively, as additional insured. Such insurance shall also apply to any municipality and fire district in which the work occurs and they shall be named on the policy as additional insured (if applicable).

2. Automobile Liability Insurance

Contractor shall obtain and maintain automobile liability insurance for bodily injury (including death) and property damage which provides total limits of not less than five million dollars (\$5,000,000) combined single limit per occurrence applicable to all owned, non-owned and hired vehicles.

3. Workers' Compensation and Employer's Liability Insurance

a. Coverage : Contractor shall obtain and maintain the following coverages:

- (i) Statutory California Workers' Compensation coverage including broad form all-states coverage.
- (ii) Employer's Liability coverage for not less than one million dollars (\$1,000,000) per occurrence.
- (iii) Coverage under the United States Longshoremen's and Harbor Workers' Act shall be provided when applicable.

4. Professional Errors and Omissions Liability Insurance

Contractor shall obtain and maintain professional errors and omissions liability insurance as follows:

a. Coverage

- (i) Coverage shall be in an amount of not less than five million dollars (\$5,000,000) per occurrence/aggregate.
- (ii) If coverage contains a deductible or self-retention, it shall not be greater than fifty thousand dollars (\$50,000) per occurrence/event.

b. Claims Made Coverage

If coverage is written on a claims made basis, the Certificate of Insurance shall clearly state so. In addition to

coverage requirements above, such policy shall provide that:

- (i) Policy retroactive date coincides with or precedes the Contractor's start of services (including subsequent policies purchased as renewals or replacements).
- (ii) Contractor will make every effort to maintain similar insurance during the required extended period of coverage following conclusion of the Contract, including the requirement of adding all additional insureds.
- (iii) If insurance is terminated for any reason, Contractor agrees to purchase an extended reporting provision of at least two (2) years to report claims arising from work performed in connection with the Contract.
- (iv) Policy allows for reporting of circumstances or incidents that might give rise to future claims.

5. Special Provisions

The following provisions shall apply to the Contract:

- a. The foregoing requirements as to the types and limits of insurance coverage to be maintained by the Contractor and any approval of said insurance by the County of its insurance consultant(s) are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Contractor pursuant to the Contract, including but not limited to the provisions concerning indemnification.
- b. The County acknowledges that some insurance requirements contained in the Contract may be fulfilled by self-insurance on the part of the Contractor. However, this shall not in any way limit liabilities assumed by the Contractor under the Contract. Any self-insurance shall be approved in writing by the County upon evidence of financial capacity satisfactory to the County's insurance

manager.

- c. Should any of the work under the Contract to the extent as permitted under the contract be sublet, the Contractor shall require each of its subcontractors of any tier to carry the aforementioned coverages, or Contractor may insure subcontractors under its own policies.



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San Jose Fire Department Response Time Reporting Analysis





April 7, 2014

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Overview

The objective of this analysis is for Athena Advanced Networks to provide a third party review of the response time reporting process and data for the San Jose Fire Department (SJFD). The department has come under scrutiny for response time and response time reporting deficiencies and has taken measures to address the deficiencies. The department is looking for Athena to validate their reporting methodology. This report is segmented into a summary followed by technical details and a series of tables.

San Jose Fire Department handles fire services for the City of San Jose and areas in Santa Clara County covering a population of over 1 million people. SJFD receives an average of 77,000 calls for service per year and maintains 33 Fire Stations. The department covers urban, suburban, and rural areas.

SJFD utilizes the Intergraph Computer Aided Dispatch system (CAD) which is shared with the San Jose Police Department. Due to the shared CAD system with the Police Department, fire personnel that require access to the CAD database need to undergo a DOJ background check as part of national CJIS requirements.

San Jose Fire has response time standards for the City of San Jose, as well as contractual obligations to Santa Clara County for response time performance. These obligations are bound by the following response time performance measures:

City of San Jose: For all call types (EMS, Fire, HazMat, Rescue, etc)

- Priority 1 emergencies – arrival within 8 minutes in 80% of incidents
- Priority 2 emergencies – arrival within 13 minutes in 80% of incidents

Santa Clara County: For EMS call types

- Priority 1 emergencies – arrival within 8 minutes in 90% of incidents for minimal compliance and 95% to avoid penalties
- Priority 2 emergencies – arrival within 13 minutes in 90% of incidents for minimal compliance and 95% to avoid penalties

The definitions for these Priority levels are described in the methodology section.



The SJFD has taken appropriate steps toward providing accurate response time calculations so that these contractual obligations can be measured properly. These steps are outlined in the next section.

SJFD Reporting Methodology

When reviewing response time data it is important to define the metrics for which the performance measures and standards are based. Once the metrics and standards are defined, a data source is selected so that appropriate data can be extracted for analysis and statistics calculated. SJFD has taken this approach and have employed the following methodology.

Metrics and Standards

Time and Priority: The priority standards for incident severity are determined by the Fire Priority Dispatch System and Medical Priority Dispatch System and defined as:

Fire:

- Priority 1 = Code 3 (Critical, life threatening response)
- Priority 2 = Code 2 (Emergency, non-life threatening response)

Medical:

- Priority 1 = Red Lights and Sirens (Immediately life threatening)
- Priority 2 = Non-Red Lights and Sirens (Possible life threatening)

The time standards for each priority are:

- Priority 1: Unit arrival in less than 8 minutes
- Priority 2: Unit arrival in less than 13 minutes

Response Time: The response time is defined as the amount of time between the time that an incident is reported and a unit arrives on scene. Per the contract with the City, a fire call start time is based on the timestamp SDTS in the CAD database and is defined in the Intergraph system as "Time stamp when the user enters the initial location or event type for a new event to indicate the beginning of event data entry." Per the contract for Santa Clara County EMS calls, the time starts when a resource has been dispatched, the time stamp is captured in the CDTS field of the Unit table in the CAD database and defined as the first unit's timestamp with status=DP (dispatch).

Jurisdiction: Incidents originating within San Jose Fire Department jurisdiction.

Exemptions: The contract with County EMS provides exemptions for certain situations such as if another incident with a greater alarm level is taking place during the time of the EMS incident. These exemptions have to be reviewed and agreed upon by the County.

Data Source

The primary data source for supplying the CAD incident information is the SJFD Intergraph CAD system which utilizes an Oracle database. In the past, SJFD calculated response time statistics using data in the Firehouse records management system but, as part of the new process has switched to directly querying the CAD database.

The CAD database consists of multiple tables and views but only a subset of information is needed for calculating response times. SJFD provided the database schema to Athena for review and also provided the fields used in the data extraction.

An intermediate process (SQL script) is required due to the fact that the Priority field in the Intergraph CAD system is not currently used to properly identify response codes as Priority 1 or 2 which is needed in order to calculate the contracted performance measures for the City and County. As a result the data has to be extracted and the Priority code inserted.

Appendix A provides the list of CAD fields that SJFD uses to calculate response times.

Overview of Data Extraction and Analysis Process

The following sections summarize the Data Extraction and Data Analysis methods used to extract, analyze, and report based on the data in CAD. A later section of this report provides a more detailed technical review of the processes.

The following steps are comprised in this methodology:

1. Run a SQL query to extract relevant data from the CAD database to a file
2. Import extracted file into a Microsoft Access database
3. Run Access queries to provide filters that will be used in the final Excel spreadsheet. Filters include whether an incident occurred in the San Jose area, had a unit assigned, was a Priority type of 1 or 2, identify possible exemptions, and if the incident was above or below the 8 and 13 minute required time responses
4. Export data table from Access to Excel



5. Create Pivot Tables in Excel to depict the response time percentages

The above methodology was followed to extract data from CAD containing all incidents from 2012-2014. The end result was an Excel spreadsheet with the Pivot Tables showing the response times in accordance with the City and County EMS contracts. The results were reviewed separately. The Pivot Tables are included later in this report along with technical details.

San Jose City Response Times

The results show a non-compliance of 71% (80% required) for Priority 1 calls on scene within 8 minutes but a compliance of 84% (80% required) of Priority 2 calls on scene within 13 minutes for fiscal year 2012-2013. See the Technical Details Section of this report for details and examples that substantiate these findings.

Santa Clara County EMS Response Times

As part of the contract with Santa Clara County, SJFD is allowed exceptions for response times that are greater than the approved 8 and 13 minutes. An exception can be taken for an incident that occurred at the same time as another incident whose alarm event is greater. For example, it may take longer to arrive on scene if there is a five alarm fire in progress. During the data analysis process, EMS incidents are identified as exceptions based on these criteria.

The County contract also stipulates that on time cancellations be recorded for certain calls that were cancelled. These are incidents that would have had on time on scene arrival but were cancelled, possibly due to another agency arriving first.

Annex B of the contract also distinguishes response times based on urban, suburban, or rural areas. These areas are defined by population density per square mile with allowed response time increase from 8 to 12 minutes on Priority 1 calls in rural areas, for example. SJFD is currently not calculating response times based on population density but is in the process of determining boundaries for the CAD Emergency Service Zone (ESZ). This will allow the SJFD to properly identify these areas and aid in proper response time reporting.

Annex B also provides provisions for time intervals when calculating response times. This allows for "pre-alerting" which impacts the incident timeline, as a result the dispatched time is used as the event entry. This calculation has been reflected in



these reporting figures. Here is an excerpt from the contract (found in Section D page5 of Annex B of the Santa Clara County Contract):

Provider may issue an “alert” prior to the dispatch for the purpose of preparing response personnel and decreasing response time. An “alert” shall be defined as a broadcast, by any means, of (1) incident location or suspected location and (2) information that indicate an emergency medical response may be necessary. The selection and notification of a specific unit shall constitute a “dispatch”, not an “alert”. If an “alert” is not cancelled or changed into a “dispatch” within sixty (60) seconds of initiation it shall constitute a “dispatch”.

The results in this Pivot Table for EMS response times for Priority 1 incidents (as shown in the Technical Details), after factoring in on time cancellations and exceptions, shows that SJFD has not been fully compliant with the minimum 90% requirement in all months. The percentages range from 85% to 94%. The results for Priority 2 calls are better and show compliancy for most months.

Summary of Findings and Recommendations

Athena Advanced Networks reviewed the methodology and reporting results with SJFD and believes that this process will produce more accurate response time reporting than in the past when SJFD used data from the Firehouse records system for its calculations. By querying the CAD database directly data can be analyzed from the source.

This new reporting methodology provides more accurate results than past practices and will go a long way to increasing confidence in this process. By employing this new methodology for assessing response time the department can focus on reviewing operations and procedures and taking steps to improve response time and services to the population they serve.

This methodology would be better enhanced with additional automation. The first step is to ensure that CAD has all the information and necessary fields thereby eliminating the need to run extract scripts and add priority codes. Following are more specific findings and recommendations.

When considering the recommendations, the CAD vendor, Intergraph, should also be engaged to investigate options that may be available to help in the reporting process keeping in mind that any changes in CAD may affect both Fire and Police



since it is a shared system. Also, any suggested changes should be reviewed by SJFD CAD operations and IT department so as not to have an unanticipated operational impact on Call Takers and Dispatchers.

Finding: The current methodology provides accurate results however it is a manual process with many moving parts. The data extraction and analysis is based on many scripts and steps that have to be run manually and maintained if any changes are needed. The process takes 1-2 days to complete. If the priority field in CAD were used differently the step of running the extraction could be eliminated because all necessary information would be in CAD.

Recommendation: Add a reporting priority field to CAD that maps the code type to Priority 1 or 2. This may require assistance from Intergraph. By not having to extract the data, reporting programs like Crystal Reports could be used to connect to the database and run "canned" reports. Intergraph should also be contacted to ascertain if they have any reporting programs that are part of CAD.

Finding: Queries have to be run to determine the jurisdiction. The query is built to extract calls associated with San Jose Fire Stations. In dispatch, boundaries are reflected in the Area and Municipality fields.

Recommendation: Review the process for determining jurisdiction based on the current fields Area, ESZ (Emergency Service Zone), and Municipality. This will require assistance from Intergraph and the GIS team. The Intergraph CAD system does have a jurisdiction field that could possibly be used. By having a proper jurisdiction field there would not be the need to write a query for it.

Finding: The Comment field in CAD is used to input information that would be better placed in its own field. For example, if an ambulance is cancelled then this information is put into the comment field. This information is needed to produce a biannual report for County EMS and if not stored consistently then it would be difficult to produce.

Recommendation: Review the types of information that is entered into the Comment field in CAD such as cancellations and transports and determine if a separate field should be created or existing fields like unit status could be used instead. This would have an impact on operations and the way that CAD is used.



Finding: Police and Fire share the same CAD system including the database. It is beneficial to run reports directly against the CAD database however this can lead to CAD performance issues due to large and long running queries.

Recommendation: It is recommended that there be a separate reporting server. The Oracle CAD database could be setup to send data (possibly in real time) to another server running a copy of the CAD database. This would allow for indexing of the database copy and provide faster reporting lookups. As a result, all reporting and data mining functions can be run against this database copy and not affect the live CAD system. Reporting programs could be used to setup “canned” reports that could be run by clicking a button.

Technical Details and Tables

Data Extraction

To access the CAD database, SJFD runs a file containing a SQL query called CADDDataExtract.sql from a workstation that has Oracle tools installed. The output from the SQL query provides the raw CAD data in a file that is then imported into an Access database called CityFire.accdb.

The contents of the CADDDataExtract.sql script can be found in Appendix B. To summarize, the script through a series of select statements grabs data from various CAD tables and presents the output for incidents in rows containing pertinent CAD fields and data. These fields include the incident number, start date/time for the incident, and on-scene date/time for first responding unit. The extract also includes additional data used for other data analysis such as GIS and Firehouse applications. Since Police and Fire share the same database the agency ID must be specified to pull only fire incidents. The agency ID for data extract is SJFIR.

Data Analysis

During the import into the Access database a table is created called CADDData. Multiple queries are run against this table and fields are updated. Such updates include Dispatch Call Type Codes, Priority, Final Type Codes, and calculated response times. See Appendix C for the tables and queries contained in the CityFire.aacdb database. The queries used to calculate CAD response times are numbers 5, 6, 8, 11, and 12.

Here is a description of each of these queries:



#5 - CountForSJ_UnitNotZero : Count an incident as SJFD event and also the number of units responded greater than Zero.

Only incidents with units involved are used in reporting response times indicated by UNITCOUNT_ANYUNIT>0 with incidents occurring in the San Jose area identified as "station" is one of the following '1', '01', '02', '03', '04', '05', '06', '07', '08', '09', '10', '11', '12', '13', '14', '15', '16', '17', '18', '19', '20', '21', '22', '23', '24', '25', '26', '27', '28', '29', '30', '31', '32', '33', '34', '35' or first file letters of the "STATION" begins with 'CNTTO', 'MLPTO', 'MRGTO', 'SNCTO' or first 4 letters of STATION begins with 'DUAL' or "CITY"='SJ'.

#6 – Update Priority: Update the priority based on final_call_type_code. This updates a Code 3 to Priority 1 and Code 2 to Priority 2.

#8 - countforPriority8minTotal: Count the incident for Priority1 8 min Total. Priority 1 incidents with "on_scene" time are counted. Also if there is no "on_scene" time and "cleared" after 8 min, it is counted against the total. These calculations also include Priority 2 incidents in less than 13 minutes. Fiscal year is also defined (June/July).

#11 - FinalStep2CountyResponseTimes: Creates the table caddata_step1_sjc for County response times.

#12 - FinalStep3CountyANDGIS: Creates and processes CADDATA_Final table that is then exported to Excel to create CADDATA_Final.xlsx.

The CADDATA_Final.xlsx is used for reporting the numbers and percentages of call response times. Pivot Tables are created in the CADDATA_Final.xlsx calculating the City and County EMS response time performance measures. A spot check of incidents is performed to verify the accuracy of the results. The process to create these reports is 1 -2 days.

This section covered the methodology employed by SJFD for defining, extracting, and analyzing CAD data used to create response time reports. The next section provides an example of this methodology using real CAD data.

Reporting Example Using Actual Data



The above methodology was followed to extract data from CAD containing all incidents from 2012-2014. The end result was the CADATA_Final.xls Excel spreadsheet with the Pivot Tables showing the response times in accordance with the City and County EMS contracts. The results were reviewed separately.

San Jose City Response Times

The results for calculating response times for the City are:

Priority 1 calls in the San Jose jurisdiction (all call types):

f_year	2012 - 2013			
countforpriority8mintotal	1			
countforsj_unitnotzero	1			
priority	Priority 1			Response Time
Sum of priority1_less_8min		Sum of countforpriority8mintotal		
	40500		56515	71.66239

Priority 2 calls in the San Jose jurisdiction (all call types):

f_year	2012 - 2013			
countforpriority13mintotal	1			
countforsj_unitnotzero	1			
priority	(Multiple Items)			Response Time
Sum of priority2_less_13min		Sum of countforpriority13mintotal		
	12118		14420	84.03606

These Pivot Tables were filtered on the following 4 criteria:

1. f_year – filtering for incidents occurring in the fiscal year of July 1, 2012 – June 30, 2013.
2. countforpriority8mintotal (countforpriority13mintotal for Priority 2) – filters results based on if a unit was assigned and if the incident response time was above or below 08:00:00 minutes (13:00:00 for Priority 2), a value of 1 indicates that it was within the response time window and a value of 0 indicates that it was not. These values are calculated based on SDTS (start time of incident) minus the on scene or cleared time of the responding unit. If there is no on scene time and the cleared time is after 8 min, it is counted against the total, an example of this is if another jurisdiction (County) reached on scene first and would indicate that SJFD was not on time.



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3. countforsj_unitnotzero – Incidents that do not have an on scene or cleared time no unit assigned are considered to have been cancelled incidents. A value of 1 indicates the incident had a unit assigned and there was an on scene or cleared time.
4. Priority – filtered by incidents that were Priority 1 or 2.

The results show a non-compliance of 71% (80% required) for Priority 1 calls on scene within 8 minutes but a compliance of 84% (80% required) of Priority 2 calls on scene within 13 minutes for fiscal year 2012-2013.

Santa Clara County EMS Response Times

The response times for the Santa Clara County EMS incidents were calculated using the same extracted data in the CADDATA_Final.xls Excel spreadsheet. Response times are calculated using the Dispatched time minus the on scene or cleared time of the responding unit.

The results can be seen here by month for the years 2012-2014 for Priority 1 and Priority 2 incidents:

Priority 1:

Row Labels	Sum of EMS_Late8MinCode3	Sum of EMS_CountCode3	Sum of EMS_TakeException	Sum of ems_OnTimeCancellation	Total calls cancelled	Unadjusted Compliance	Total calls cancelled - after reconciliation	Reconciled Compliance	
final_call_type_code 3									
countForCountyEMS 1									
▼ 2012	3047	25935	831	1708	24227	87.42312	23396	2216	90.53
7	453	4169	199	286	3883	88.33376	3684	254	93.11
8	412	4359	188	277	4082	89.90691	3894	224	94.25
9	521	4265	283	283	3982	86.91612	3805	344	90.96
10	565	4434	292	292	4142	86.35925	4013	436	89.14
11	533	4232	61	283	3949	86.50291	3888	472	87.86
12	563	4476	77	287	4189	86.56004	4112	486	88.18
▼ 2013	7345	54651	1595	3579	51072	85.61834	49477	5750	88.38
1	552	4609	81	252	4357	87.33073	4276	471	88.99
2	517	4322	50	270	4052	87.24087	4002	467	88.33
3	506	4599	65	287	4312	88.26531	4247	441	89.62
4	543	4584	102	273	4311	87.40431	4209	441	89.52
5	625	4702	114	347	4355	85.64868	4241	511	87.95
6	568	4379	116	318	4061	86.0133	3945	452	88.54
7	604	4524	94	312	4212	85.66002	4118	510	87.62
8	610	4599	412	296	4303	85.82384	3891	198	94.91
9	703	4438	320	307	4131	82.98233	3811	383	89.95
10	736	4688	106	316	4372	83.1656	4266	630	85.23
11	668	4530	55	317	4213	84.14432	4158	613	85.26
12	713	4677	80	284	4393	83.76963	4313	633	85.32
▼ 2014	1810	13679	339	899	12780	85.83725	12441	1471	88.18
1	680	4704	174	295	4409	84.577	4235	506	88.05
2	569	4275	89	291	3984	85.71787	3895	480	87.68



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Priority 2:

final_call_type_code (Multiple Items) -X
countForCountyEMS 1 -X

Row Labels	Sum of EMS_Late13MinCode2	Sum of EMS_CountCode2	Sum of EMS_TakeExemption	Sum of ems_OnTimeCancellation		Total calls cancelled	Unadjusted Compliance	Total calls cancelled - after re-conciliation	Total Late calls reconciled	Reconciled Compliance
▼ 2012	392	5135	81	394		4741	91.7317	4660	311	93.33
7	60	851	19	72		779	92.29782	760	41	94.61
8	42	881	17	72		809	94.80841	792	25	96.84
9	53	832	14	67		765	93.0719	751	39	94.81
10	75	868	16	64		804	90.67164	788	59	92.51
11	89	842	9	66		776	88.53093	767	80	89.57
12	73	861	6	53		808	90.96535	802	67	91.65
▼ 2013	1186	10759	265	810		9949	88.0792	9684	921	90.49
1	91	1004	17	53		951	90.43113	934	74	92.08
2	68	897	11	59		838	91.88544	827	57	93.11
3	79	853	6	59		794	90.05038	788	73	90.74
4	89	885	15	61		824	89.19903	809	74	90.85
5	92	902	19	68		834	88.96882	815	73	91.04
6	104	879	18	64		815	87.23926	797	86	89.21
7	131	886	13	78		808	83.78713	795	118	85.16
8	112	880	74	75		805	86.08696	731	38	94.80
9	119	903	57	78		825	85.57576	768	62	91.93
10	132	895	20	85		810	83.7037	790	112	85.82
11	109	853	6	54		799	86.35795	793	103	87.01
12	60	922	9	76		846	92.9078	837	51	93.91
▼ 2014	148	2648	20	176		2472	94.01294	2452	128	94.78
1	57	949	9	82		867	93.42561	858	48	94.41
2	55	791	8	49		742	92.5876	734	47	93.60

In these examples there are only two filters:

1. Final_call_type_code – filters for code 3 incidents for Priority 1; and code 2 for Priority 2.
2. countForCountyEMS – filters if the incident is for County EMS, 1 is yes and 0 is no.

As part of the contract with Santa Clara County, SJFD is allowed exceptions for response times that are greater than the approved 8 and 13 minutes. An exception can be taken for an incident that occurred at the same time as another incident whose alarm event is greater. For example, it may take longer to arrive on scene if there is a five alarm fire in progress. During the data analysis process, EMS incidents are identified as exceptions based on these criteria.

The County contract also stipulates that on time cancellations be recorded for certain calls that were cancelled. These are incidents that would have had on time on scene arrival but were cancelled, possible due to another agency arriving first.

Annex B of the contract also distinguishes response times based on urban, suburban, or rural areas. These areas are defined by population density per square mile with allowed response time increase from 8 to 12 minutes on Priority 1 calls in



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rural areas, for example. SJFD is currently not calculating response times based on population density but is in the process of determining boundaries for the CAD Emergency Service Zone (ESZ). This will allow the SJFD to properly identify these areas and aid in proper response time reporting.

Annex B also provides provisions for time intervals when calculating response times. This allows for "pre-alerting" which impacts the incident timeline, as a result the dispatched time is used as the event entry. This calculation has been reflected in these reporting figures. Here is an excerpt from the contract (found in Section D page5 of Annex B of the Santa Clara County Contract):

Provider may issue an "alert" prior to the dispatch for the purpose of preparing response personnel and decreasing response time. An "alert" shall be defined as a broadcast, by any means, of (1) incident location or suspected location and (2) information that indicate an emergency medical response may be necessary. The selection and notification of a specific unit shall constitute a "dispatch", not an "alert". If an "alert" is not cancelled or changed into a "dispatch" within sixty (60) seconds of initiation it shall constitute a "dispatch".

The results in this Pivot Table for EMS response times for Priority 1 incidents, after factoring in on time cancellations and exceptions, shows that SJFD has not been fully compliant with the minimum 90% requirement in all months. The percentages range from 85% to 94%. The results for Priority 2 calls are better and show compliancy for most months.



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Appendix A – CAD Database Fields

CAD Database Fields used in response time calculations (information provided by SJFD):

Field used	Description	Cad Table	Field name	comments
Ag_id	Agency handling the event. For San Jose it is SJFIR. We use ag_id='SJFIR' to filter San Jose records.	Agency_event	Ag_id	Used in SQL (CADDDataExtract.sql) to export data for further processing.
Incident_no	Incident Number	Agency_event	Num_1	
Sdts	Start time of an event	Agency_event	Sdts	
Station	First Due Station	Agency_event	Lev3	
Alarm_lev	Alarm_level of an event	Agency_event	Alarm_level	County EMS processing only. This field used to identify greater alarm(alarm_lev>0)
City	City	Common_event	Emun	Agency_event.eid=common_event.eid
Dispatched	First unit notified timestamp	un_hi	Cdts	First unit's timestamp with status='DP'. agency_event.NUM_1=un_hi.NUM_1 Also filtered for dummy units.
dispatched_call_type	"Call type" used for the First unit dispatched	uhdp	tycod	This is considered as the initial "incident type code"
dispatched_type	Medical/Fire or Other			Processed later in CityFire.accdb



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dispatched_call_type_code	3,2			Processed later in CityFire.acddb
On_scene	First unit arrived on scene timestamp	Un_hi	Cdts	First unit's timestamp with uh.unit_status IN ('AR', 'AD') agency_event.NUM_1=un_hi.NUM_1 Also filtered for dummy units.
on_scene_unit_alsbls	The first unit arrived is als or bls. At the time of the incident, unit's als bls status	Un_hi	It is based on ext_unitattr	County EMS only. Please CADDDataExtract.sql for the als bls calculation.
on_scene_first_als_time	First als unit on scene timestamp	Un_hi	It is based on ext_unitattr	County EMS Only. Filtered for als units arrived. . Please CADDDataExtract.sql for the als bls calculation.
Cleared	Last unit cleared timestamp	Un_hi	Cdts	Last unit timestamp with unit_status IN ('AV', 'AM', 'AQ'). agency_event.NUM_1=un_hi.NUM_1 Also filtered for dummy units.
unitcount_anyunit	Total units involved the incident	Un_hi	Count,distinct unit_id	agency_event.NUM_1=un_hi.NUM_1 Also filtered for dummy units.
final_call_type	Final call time	Agency_event	Tycod	
final_call_type_datetime		Aeven It is view created to combining	Cdts	Timestamp from history when the first time final_call_type used.



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		agency_event and agency_event_ history.		
Priority	Code 3= Priority 1, Code 2= Priority 2			Processed later in CityFire.acddb
mpds_code				Processed later in CityFire.acddb
final_type	Medical/Fire or other			Processed later in CityFire.acddb
Cancelled	If there is no on_scene time stamp, 1 else 0			Processed later in CityFire.acddb
countforsj_unitnotzero	City : Count this incident for City Processing			Processed later in CityFire.acddb
rtime	City: This is the response time of the incident			Processed later in CityFire.acddb
priority1_less_8min	City: Priority 1 , response time in less than 8 min			Processed later in CityFire.acddb
countforpriority8mintotal	City: Count this incident for Priority 1 calculation			Processed later in CityFire.acddb
priority2_less_13min	City: Priority 2 , response time in less than 13 min			Processed later in CityFire.acddb
countforpriority13mintotal	City: Count this incident for Priority 2 calculation			Processed later in CityFire.acddb
countForCountyEMS	County: Count this incident for County processing			Processed later in CityFire.acddb
exemption	County: This incident happened during a greater alarm event			Processed later in CityFire.acddb
EMS_RTIME	County: This is the response time of the incident using county contract			Processed later in CityFire.acddb
EMS_priority1_less_8min	County: Priority 1 , response time in less than 8 min			Processed later in CityFire.acddb
EMS_countforpriority8mintotal	County: Count this incident for Priority 1 calculation			Processed later in CityFire.acddb



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EMS_priority2_less_13 min	County: Priority 2 , response time in less than 13 min			Processed later in CityFire.acddb
EMS_countforpriority13 mintotal	County: Count this incident for Priority 2 calculation			Processed later in CityFire.acddb
EMS_OnTimeCancellation	County: Is this incident cancelled before 8 min for Priority 1 and before 13 min for Priority 2 calls			Processed later in CityFire.acddb
Ems_TakeExemption	County: Incidents happened during a greater alarm event, if it is late, take exception			Processed Later in CityFire.acddb



Appendix B – CADDataExtract.sql

Contents of CADDataExtract.sql, provided by SJFD:

```
/* Formatted on 3/19/2014 4:52:52 PM (QP5 v5.256.13226.35510) */
SELECT ae.NUM_1 Incident_no,
       TO_DATE (SUBSTR (ae.SDTS, 1, 14), 'YYYYMMDDHH24MISS') sdt,
       TO_DATE (SUBSTR (ae.aD_TS, 1, 14), 'YYYYMMDDHH24MISS') AD_TS,
       TO_DATE (SUBSTR (ae.EN_TS, 1, 14), 'YYYYMMDDHH24MISS') EN_TS,
       TO_DATE (SUBSTR (ae.AR_TS, 1, 14), 'YYYYMMDDHH24MISS') AR_TS,
       TO_DATE (SUBSTR (ae.Ds_TS, 1, 14), 'YYYYMMDDHH24MISS') Ds_TS,
       'SJ' Fire_jur,
       AE.LEV3 Station,
       ae.DGROUP,
       ae.ESZ,
       ae.alarm_lev,
       CASE
         WHEN TRIM (
           ( SUBSTR (cE.estnum, 1, 8)
             || ' '
             || cE.edirpre
             || ' '
             || SUBSTR (cE.efeanme, 1, 20)
             || ' '
             || cE.efeatyp
             || ' '
             || cE.edirsuf
             || ' '
             || cE.eapt))
           IS NOT NULL
         THEN
           TRIM (
             SUBSTR (cE.ecompl, 1, 50)
             || ' '
             || ( SUBSTR (cE.estnum, 1, 8)
                 || ' '
                 || cE.edirpre
                 || ' '
                 || cE.eapt))
           )
       END
```

```

        || SUBSTR (cE.efeanme, 1, 20)
        || ''
        || cE.efeatyp
        || ''
        || cE.edirsuf
        || ''
        || cE.eapt))
    || ','
    || cE.emun
ELSE
    SUBSTR (cE.ecompl, 1, 50)
    || ''
    || cE.xstreet1
    || '/'
    || cE.xstreet2
    || ','
    || cE.emun
END
AS Location,
ce.emun City,
'M' population_Zone,
TO_DATE (SUBSTR (uhdp.cdts, 1, 14), 'YYYYMMDDHH24MISS') Dispatched,
uhdp.unid Dispatched_Unit,
(SELECT TO_DATE (SUBSTR (MIN (un_hi.cdts), 1, 14), 'YYYYMMDDHH24MISS')
FROM un_hi
WHERE un_hi.num_1 = ae.NUM_1
AND UN_HI.UNID = uhdp.unid
AND un_hi.unit_status = 'ER'
AND UN_HI.AG_ID = 'SJFIR')
Dispatched_Unit_En_Route,
(SELECT TO_DATE (SUBSTR (MIN (un_hi.cdts), 1, 14), 'YYYYMMDDHH24MISS')
FROM un_hi
WHERE un_hi.num_1 = ae.NUM_1
AND UN_HI.UNID = uhdp.unid
AND un_hi.unit_status IN ('AR', 'AD')
AND UN_HI.AG_ID = 'SJFIR')
Dispatched_Unit_On_Scene,
uhdp.tycod Dispatched_CALL_TYPE,
" dispatched_type,
" Dispatched_CALL_TYPE_code,

```



```

TO_DATE (SUBSTR (uher.cdts, 1, 14), 'YYYYMMDDHH24MISS') En_Route,
uher.unid En_Route_Unit,
uher.lastxor En_Route_LastKnown_X,
uher.lastyor En_Route_LastKnown_Y,
(SELECT TO_DATE (SUBSTR (MIN (cdts), 1, 14), 'YYYYMMDDHH24MISS')
  FROM aeven
  WHERE num_1 = AE.NUM_1 AND aeven.tycod = AE.TYCOD)
  Final_call_type_datetime,
TO_DATE (SUBSTR (uhAR.cdts, 1, 14), 'YYYYMMDDHH24MISS') On_Scene,
uhAR.unid On_Scene_UNIT,
(SELECT TO_DATE (SUBSTR (MIN (un_hi.cdts), 1, 14), 'YYYYMMDDHH24MISS')
  FROM un_hi
  WHERE un_hi.num_1 = ae.NUM_1
    AND UN_HI.UNID = uhAR.unid
    AND un_hi.unit_status = 'DP'
    AND UN_HI.AG_ID = 'SJFIR')
  On_Scene_UNIT_Dispatched,
(SELECT TO_DATE (SUBSTR (MIN (un_hi.cdts), 1, 14), 'YYYYMMDDHH24MISS')
  FROM un_hi
  WHERE un_hi.num_1 = ae.NUM_1
    AND UN_HI.UNID = uhAR.unid
    AND un_hi.unit_status = 'ER'
    AND UN_HI.AG_ID = 'SJFIR')
  On_Scene_UNIT_En_Route,

(select max(lastxor)
  FROM un_hi
  WHERE un_hi.num_1 = ae.NUM_1
    AND UN_HI.UNID = uhAR.unid
    AND un_hi.unit_status = 'ER'
    AND UN_HI.AG_ID = 'SJFIR'
    and un_hi.cdts = (SELECT MIN (un_hi.cdts)
  FROM un_hi
  WHERE un_hi.num_1 = ae.NUM_1
    AND UN_HI.UNID = uhAR.unid
    AND un_hi.unit_status = 'ER'
    AND UN_HI.AG_ID = 'SJFIR')
  )
  On_Scene_UNIT_ER_LastKnown_X,

```

```
(select max(lastyor)
  FROM un_hi
 WHERE un_hi.num_1 = ae.NUM_1
       AND UN_HI.UNID = uhAR.unid
       AND un_hi.unit_status = 'ER'
       AND UN_HI.AG_ID = 'SJFIR'
       and un_hi.cdts = (SELECT MIN (un_hi.cdts)
  FROM un_hi
 WHERE un_hi.num_1 = ae.NUM_1
       AND UN_HI.UNID = uhAR.unid
       AND un_hi.unit_status = 'ER'
       AND UN_HI.AG_ID = 'SJFIR')
 )
 On_Scene_UNIT_ER_LastKnown_Y,
uhAR.ALSBLS On_Scene_UNIT_ALSBLS,
TO_DATE (SUBSTR (uhAR_ALS.cdts, 1, 14), 'YYYYMMDDHH24MISS')
 On_Scene_First_ALS_time,
uhAR_ALS.unid On_Scene_First_ALS_unit,
TO_DATE (SUBSTR (uhclear.cdts, 1, 14), 'YYYYMMDDHH24MISS') Cleared,
uhclear.unid Cleared_unit,
/*  regexp_replace((SELECT distinct rtrim(xmlagg(xmlelement(e,
un_hi.UNID||','))).extract('//text()','))
  FROM un_hi
 WHERE un_hi.num_1 = ae.NUM_1 AND UN_HI.AG_ID = 'SJFIR'
       AND SUBSTR (UNID, 1, 3) NOT IN ('STA', 'CMD', 'SJF')
), '{3,}')(.*?)\1+', '\1')
 AS UNITCOUNT_anyunit,

*/
```

```
(SELECT COUNT (DISTINCT un_hi.UNID)
  FROM un_hi
 WHERE un_hi.num_1 = ae.NUM_1
       AND UN_HI.AG_ID = 'SJFIR'
       AND SUBSTR (UNID, 1, 2) <> 'PD'
       AND SUBSTR (UNID, 1, 3) NOT IN ('STA',
                                       'CMD',
                                       'SJF',
```

```
'PGE')
AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',
                                'FPGE',
                                'TALK',
                                'TIER',
                                'TIME')
AND UNID NOT IN ('FRE',
                 'CNT',
                 'CDF',
                 'SCC',
                 'GIL',
                 'MLP',
                 'MOF',
                 'MRG',
                 'MTV',
                 'PAF',
                 'SAR',
                 'SNC',
                 'SNY',
                 'UTC',
                 '2A',
                 '3A',
                 '4A',
                 '5A',
                 '6A',
                 'ALERT',
                 'ARSON',
                 'ASMGR',
                 'CALLOUT',
                 'CALSTAR',
                 'CP',
                 'CSTAR',
                 'CTMGR',
                 'DSO',
                 'DTCHF',
                 'E99',
                 'FAIR',
                 'FBASE',
                 'FBRD',
                 'FCHP',
```



```
'FIRETEST',  
'FSU1',  
'FSU2',  
'FSU3',  
'FULL1ST',  
'GP',  
'GPX',  
'GREAT',  
'HAZMAT',  
'HIRISE1',  
'HIRISE2',  
'HIRISE3',  
'IDT',  
'IZONE',  
'LFLIT',  
'LIFEFLIGHT',  
'LIFLT',  
'MPMP',  
'MPMP2',  
'MUTAID',  
'OES',  
'PIO',  
'PHOT1',  
'REACH',  
'REDCROSS',  
'REDFLAG',  
'REHAB',  
'RUN1',  
'RUN2',  
'RUN3',  
'SIGNIF',  
'STAGE',  
'TAC',  
'TEST1',  
'UNIT32',  
'UNIT32B',  
'WHITE',  
'Z15',  
'ZEBRA15'))  
AS UNITCOUNT_anyunit,
```



```

AE.TYCOD Final_call_type,
ae.TYP_ENG,
" Final_call_type_code,
" MPDS_CODE,
" Final_type,
ce.estnum,
ce.edirpre,
ce.efeatme,
ce.efeatyp,
ce.edirsuf,
ce.EAPT,
ce.ecompl,
ce.xstreet1,
ce.xstreet2,
ce.x_cord,
ce.y_cord
FROM AGENCY_EVENT ae,
common_event ce,
(SELECT cdts,
    tycod,
    unid,
    num_1,
    ROW_NUMBER () OVER (PARTITION BY num_1 ORDER BY cdts ASC)
    AS rn
FROM un_hi uh
WHERE cdts >= :StartDate
AND cdts < :EndDatePlusOne
AND uh.unit_status = 'DP'
AND uh.AG_ID = 'SJFIR'
AND SUBSTR (UNID, 1, 2) <> 'PD'
AND SUBSTR (UNID, 1, 3) NOT IN ('STA',
                                'CMD',
                                'SJF',
                                'PGE')
AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',
                                'FPGE',
                                'TALK',
                                'TIER',
                                'TIME')
AND UNID NOT IN ('FRE',

```



'CNT',
'CDF',
'GIL',
'SCC',
'MLP',
'MOF',
'MRG',
'MTV',
'PAF',
'SAR',
'SNC',
'SNY',
'UTC',
'2A',
'3A',
'4A',
'5A',
'6A',
'ALERT',
'ARSON',
'ASMGR',
'CALLOUT',
'CALSTAR',
'CP',
'CSTAR',
'CTMGR',
'DSO',
'DTCHF',
'E99',
'FAIR',
'FBASE',
'FBRD',
'FCHP',
'FIRETEST',
'FSU1',
'FSU2',
'FSU3',
'FULL1ST',
'GP',
'GPX',



'GREAT',
'HAZMAT',
'HIRISE1',
'HIRISE2',
'HIRISE3',
'IDT',
'IZONE',
'LFLIT',
'LIFEFLIGHT',
'LIFLT',
'MPMP',
'MPMP2',
'MUTAID',
'OES',
'PIO',
'PHOT1',
'REACH',
'REDCROSS',
'REDFLAG',
'REHAB',
'RUN1',
'RUN2',
'RUN3',
'SIGNIF',
'STAGE',
'TAC',
'TEST1',
'UNIT32',
'UNIT32B',
'WHITE',
'Z15',
'ZEBRA15')) uhdp,

```
(SELECT cdts,
  tycod,
  unid,
  num_1,
  lastxor,
  lastyor,
  ROW_NUMBER () OVER (PARTITION BY num_1 ORDER BY cdts ASC)
  AS rn
```



```

FROM un_hi uh
WHERE  cdts >= :StartDate
      AND cdts < :EndDatePlusOne
      AND uh.unit_status = 'ER'
      AND SUBSTR (UNID, 1, 2) <> 'PD'
      AND SUBSTR (UNID, 1, 3) NOT IN ('STA',
                                      'CMD',
                                      'SJF',
                                      'PGE')
      AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',
                                      'FPGE',
                                      'TALK',
                                      'TIER',
                                      'TIME')
      AND UNID NOT IN ('FRE',
                      'CNT',
                      'CDF',
                      'GIL',
                      'SCC',
                      'MLP',
                      'MOF',
                      'MRG',
                      'MTV',
                      'PAF',
                      'SAR',
                      'SNC',
                      'SNY',
                      'UTC',
                      '2A',
                      '3A',
                      '4A',
                      '5A',
                      '6A',
                      'ALERT',
                      'ARSON',
                      'ASMGR',
                      'CALLOUT',
                      'CALSTAR',
                      'CP',
                      'CSTAR',

```

'CTMGR',
'DSO',
'DTCHF',
'E99',
'FAIR',
'FBASE',
'FBRD',
'FCHP',
'FIRETEST',
'FSU1',
'FSU2',
'FSU3',
'FULL1ST',
'GP',
'GPX',
'GREAT',
'HAZMAT',
'HIRISE1',
'HIRISE2',
'HIRISE3',
'IDT',
'IZONE',
'LFLIT',
'LIFEFLIGHT',
'LIFLT',
'MPMP',
'MPMP2',
'MUTAID',
'OES',
'PIO',
'PHOT1',
'REACH',
'REDCROSS',
'REDFLAG',
'REHAB',
'RUN1',
'RUN2',
'RUN3',
'SIGNIF',
'STAGE',



```

ALSCLS
FROM un_hi uh
WHERE  cdts >= :StartDate
      AND cdts < :EndDatePlusOne
      AND uh.unit_status IN ('AR', 'AD')
      AND uh.AG_ID = 'SJFIR'
      AND SUBSTR (UNID, 1, 2) <> 'PD'
      AND SUBSTR (UNID, 1, 3) NOT IN ('STA',
                                       'CMD',
                                       'SJF',
                                       'PGE')
      AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',
                                       'FPGE',
                                       'TALK',
                                       'TIER',
                                       'TIME')
      AND UNID NOT IN ('FRE',
                      'CNT',
                      'CDF',
                      'GIL',
                      'SCC',
                      'MLP',
                      'MOF',
                      'MRG',
                      'MTV',
                      'PAF',
                      'SAR',
                      'SNC',
                      'SNY',
                      'UTC',
                      '2A',
                      '3A',
                      '4A',
                      '5A',
                      '6A',
                      'ALERT',
                      'ARSON',
                      'ASMGR',
                      'CALLOUT',
                      'CALSTAR',

```



'CP',
'CSTAR',
'CTMGR',
'DSO',
'DTCHF',
'E99',
'FAIR',
'FBASE',
'FBRD',
'FCHP',
'FIRETEST',
'FSU1',
'FSU2',
'FSU3',
'FULL1ST',
'GP',
'GPX',
'GREAT',
'HAZMAT',
'HIRISE1',
'HIRISE2',
'HIRISE3',
'IDT',
'IZONE',
'LFLIT',
'LIFEFLIGHT',
'LIFLT',
'MPMP',
'MPMP2',
'MUTAID',
'OES',
'PIO',
'PHOT1',
'REACH',
'REDCROSS',
'REDFLAG',
'REHAB',
'RUN1',
'RUN2',
'RUN3',


```
AND SUBSTR (UNID, 1, 2) <> 'PD'  
AND SUBSTR (UNID, 1, 3) NOT IN ('STA',  
                                'CMD',  
                                'SJF',  
                                'PGE')  
AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',  
                                'FPGE',  
                                'TALK',  
                                'TIER',  
                                'TIME')  
AND UNID NOT IN ('FRE',  
                'CNT',  
                'CDF',  
                'GIL',  
                'SCC',  
                'MLP',  
                'MOF',  
                'MRG',  
                'MTV',  
                'PAF',  
                'SAR',  
                'SNC',  
                'SNY',  
                'UTC',  
                '2A',  
                '3A',  
                '4A',  
                '5A',  
                '6A',  
                'ALERT',  
                'ARSON',  
                'ASMGR',  
                'CALLOUT',  
                'CALSTAR',  
                'CP',  
                'CSTAR',  
                'CTMGR',  
                'DSO',  
                'DTCHF',  
                'E99',
```



'FAIR',
'FBASE',
'FBRD',
'FCHP',
'FIRETEST',
'FSU1',
'FSU2',
'FSU3',
'FULL1ST',
'GP',
'GPX',
'GREAT',
'HAZMAT',
'HIRISE1',
'HIRISE2',
'HIRISE3',
'IDT',
'IZONE',
'LFLIT',
'LIFEFLIGHT',
'LIFLT',
'MPMP',
'MPMP2',
'MUTAID',
'OES',
'PIO',
'PHOT1',
'REACH',
'REDCROSS',
'REDFLAG',
'REHAB',
'RUN1',
'RUN2',
'RUN3',
'SIGNIF',
'STAGE',
'TAC',
'TEST1',
'UNIT32',
'UNIT32B',

```

        'WHITE',
        'Z15',
        'ZEBRA15')) uhAR_ALS,
(SELECT cdt,
    tyco,
    unid,
    num_1,
    ROW_NUMBER () OVER (PARTITION BY num_1 ORDER BY cdt DESC)
    AS rn
FROM un_hi uh
WHERE   cdt >= :StartDate
        AND cdt < :EndDatePlusOne
        AND uh.unit_status IN ('AV', 'AM', 'AQ')
        AND uh.AG_ID = 'SJFIR'
        AND SUBSTR (UNID, 1, 2) <> 'PD'
        AND SUBSTR (UNID, 1, 3) NOT IN ('STA',
            'CMD',
            'SJF',
            'PGE')
        AND SUBSTR (UNID, 1, 4) NOT IN ('FMDC',
            'FPGE',
            'TALK',
            'TIER',
            'TIME')
        AND UNID NOT IN ('FRE',
            'CNT',
            'CDF',
            'GIL',
            'SCC',
            'MLP',
            'MOF',
            'MRG',
            'MTV',
            'PAF',
            'SAR',
            'SNC',
            'SNY',
            'UTC',
            '2A',
            '3A',

```



'4A',
'5A',
'6A',
'ALERT',
'ARSON',
'ASMGR',
'CALLOUT',
'CALSTAR',
'CP',
'CSTAR',
'CTMGR',
'DSO',
'DTCHF',
'E99',
'FAIR',
'FBASE',
'FBRD',
'FCHP',
'FIRETEST',
'FSU1',
'FSU2',
'FSU3',
'FULL1ST',
'GP',
'GPX',
'GREAT',
'HAZMAT',
'HIRISE1',
'HIRISE2',
'HIRISE3',
'IDT',
'IZONE',
'LFLIT',
'LIFEFLIGHT',
'LIFLT',
'MPMP',
'MPMP2',
'MUTAID',
'OES',
'PIO',

```

        'PHOT1',
        'REACH',
        'REDCROSS',
        'REDFLAG',
        'REHAB',
        'RUN1',
        'RUN2',
        'RUN3',
        'SIGNIF',
        'STAGE',
        'TAC',
        'TEST1',
        'UNIT32',
        'UNIT32B',
        'WHITE',
        'Z15',
        'ZEBRA15')) uhcLEAR
WHERE  ae.ag_id = 'SJFIR'
      AND ae.sdTS >= :StartDate
      AND ae.sdTS < :EndDatePlusOne
      AND ae.eid = ce.eid
      AND ae.NUM_1 = uhdp.num_1(+)
      AND uhdp.rn(+) = 1
      AND ae.NUM_1 = uher.num_1(+)
      AND uher.rn(+) = 1
      AND ae.NUM_1 = uhar.num_1(+)
      AND uhar.rn(+) = 1
      AND ae.NUM_1 = uhcLEAR.num_1(+)
      AND uhcLEAR.rn(+) = 1
      AND ae.NUM_1 = uhAR_ALS.num_1(+)
      AND uhAR_ALS.rn(+) = 1
      AND ae.tycod NOT IN ('PRE',
        'FDTEST',
        'CALLOUT',
        'FDINFO',
        'FDPAGE',
        'FDLOG',
        'DRILL20',
        'DRILL',
        'CTEST',

```



```
'CFDTEST',  
'CDRILL',  
'CABLE',  
'BOARDUP',  
'ARSON',  
'99D1',          -- TEST TYPECODE  
'5306',  
'ROAD',  
'RUN',  
'NOALARM',  
'WATER',  
'PGEC2',  
'PGE',  
'PAGE',  
'MMTF',          -- METROPOLITIAN TASK FORCE  
'MEDPAGE',  
'MDCTRNG',  
'GRANDPRIX',  
'ROCKNROLL',  
'TELCO',  
'TALK',  
'STA99',  
'MOVE'  
)
```



Appendix C – Contents of CityFire.aacb

This information was provided by SJFD.

Tables

CADData – This is the table created using CADDataExtract.sql

CADDATA_Final – This is the file processed table exported to excel (CADDATA_Final.xlsx) using query #12

CADDATA_Step1_SJC – This is temp table processed to create the final table. Query # 8 used create this table.

caddata_step2_county – This is one of the temp tables created to create the final table. Query #11 is used for this table.

CADLatLng-UsingFME – This is not used for response time measurements. This is a file for all the incidents with converted x and Y to lat, lng to a more usable format using FME.

CODE – This is a table with type code categories (Type = MEDICAL/Fire & Other, Code= 2/3, MPDS_Code=Alpha/Charlie)

EMSOutOfSJRemoved – This is for reference only for County EMS. Query # 10 used.

FH – This table is all records from the Fire House RMS software to identify the after the fact incident type. This not used for response time calculations.

FireHouseCallTypes – This table contains the classifications of Fire house incident types. This table is not used for response time calculations.

GreaterAlam_MutualAid – This table contains all the greater alarms or mutual aid events. Used to identify incidents happened during the greater alarm/ mutual aid in later processing. Query # 9 used to creating this table.

Shifts – Last few years of Shifts

Station GIS Stats – This is has station population, square mile, residential units etc. Not used for the response time calculations.

Qu ery	Table	Description	Fields updated	Table used
1	caddata	Dispatch Call types and Codes	DISPATCHED_CALL_TYPE_CODE DISPATCHED_TYPE	Code



2	Caddata	Dispatch Call types and Codes	FINAL_CALL_TYPE_CODE FINAL_TYPE MPDS_CODE	Code
3	FH	Formatting incident number similar to cad num_1	Num_1	
4	caddata	FireHouse incident type	Fh_type_code	Fh
5	Caddata	Mark with 1 if incident is in San Jose jurisdiction and number of units responded greater than zero	CountForSJ_UnitNotZero	
6	Caddata	Priority based on final_call_type_code	Priority	
7	Caddata	Shift based on sdts	Shift	Shifts
8	CADDATA_S tep1-SJC	Calculations for City response times, Incident after the fact type based on Fire House category, Fiscal Year, Year, Month	FH_type_category, F_Year, Year, Month, Cancelled, rtime, Priority1_Less_8min, countforPriority8minTotal, Priority2_Less_13min countforPriority13minTotal	caddata FireHouseC allTypes
9	GreaterAlam_MutualAid	Create table for the		Caddata



		incidents marked as greater alarm or mutual aid		
10	EMSOOutOfSJ Removed	Create table for EMS events not considered for County Response time calculations		CADData
11	caddata_step2_county	Create table for County response times,	countForCountyEMS exemption, EMS_Dispatch, EMS_ONSCENE, EMS_RUNTIME, EMS_Late8MinCode3, EMS_CountCode3, EMS_Late13MinCode2, EMS_CountCode2	caddata_step1_sjc
12	CADDATA_Final		EMS_TakeExemption, EN_ROUTE_LASTKNOWN_lng, EN_ROUTE_LASTKNOWN_lat, ON_SCENE_UNIT_ER_LASTKNOWN_lng, ON_SCENE_UNIT_ER_LASTKNOWN_lat, [CADLatLng-UsingFME].lng, [CADLatLng-UsingFME].lat INTO CADDATA_Final FROM caddata_step2_county, [CADLatLng-UsingFME] WHERE ((([CADLatLng-UsingFME].INCIDENT_NO)=[caddata_step2_county].[INCIDENT_NO]));	caddata_step2_county CADLatLng-UsingFME

Queries in Bold are used to create the CAD response times (5, 6, 8, 11, and 12).



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Company Capabilities

Athena Advanced Networks specializes in infrastructure deployment and support for mission critical public safety operations. The following sections highlight the capabilities of the company. Also included is a list of agencies that have been served by Athena.

Infrastructure Deployment

- Configure, acquire and deploy servers and networks
- Set up operating software, SQL and virtual environment
- Establish and test high-availability and disaster recovery configurations
- Architect and deploy core network architecture
- Establish and test connectivity
- Establish and test mobile environment

Remote Monitoring and Support Program

- Helpdesk to answer questions, provide advice and solve problems
- Preventative Maintenance Program
- Proactive monitoring
- Problem resolution – triage, fix and/or escalate
- Patch and release management – including installation and testing
- High-availability and DR readiness testing
- Trusted IT advisor

Specialized Services

- System assurance reviews – assess condition and capacity of IT systems to meet agency needs
- Troubleshooting
- Planning and design – configurations, networks, data centers – including HA, DR and VM configurations
- Installation, set-up, and migration of Active Directory, SharePoint and Exchange Server
- Database services - Proactive monitoring and maintenance of SQL databases – tasks include checking table sizes, database integrity, reviewing logs, verifying backup, and overall database performance.

Athena Corporate Experience

Athena has provided public safety consulting services and/or support to the following government agencies:

- Anne Arundel County, MD – Systems Assurance Review

Alameda, CA - Remote Monitoring and Support
Anchorage, AK - Remote Monitoring and Support
Baltimore, MD – Systems Assurance Review
Carson City, NV – Server Replacement - Remote Monitoring and Support
Dane County, WI – Network Configuration Analysis
Douglas County, WA - System Assurance Review & Network upgrades
El Paso County, CO - OS and SQL Server upgrades
Elkhart, IN - Domain Controller and Exchange Server upgrades
Farmers Mutual Telephone – Payette County, ID - Network & 911 equipment troubleshooting
Fort Bend, TX – Server move and Network review (pre-CJIS audit)
Fort Collins, CO – System Assurance Review - Remote Monitoring and Support
Fort Worth, TX - Server replacement - Remote Monitoring and Support
Fond du Lac County, WI - VMware Server migration
Fremont, CA – Site analysis as precursor to dispatch consolidation
Grand Prairie, TX - Hardware upgrades - Remote Monitoring and Support
Grants Pass, OR - Systems Assurance Review
Harris County, TX – Network troubleshooting
Hawthorne, CA - Remote Monitoring and Support
Houston, TX – Network troubleshooting – deploying Disaster Recovery system
Jefferson Parish, LA - Data center move
Kansas City, MO - VMware system review
Lake County, IL – Network review
La Mesa, CA – Server deployment, project support - Remote Monitoring and Support
Lee County, IL - Systems Assurance Review, Network upgrades
Maryland State Police, MD - develop system security plan
McHenry County, IL - Network performance review
Midland, TX – System Assurance Review
Monterey County, CA - Server replacement - Remote Monitoring and Support
Montgomery County, OH - Remote Monitoring and Support
Orange County SO, FL - Server replacement - Remote Monitoring and Support
Orange County Fire, FL – Systems Assurance Review - Remote Monitoring and Support
Pasadena, TX - System Assurance Review
Phoenix, OR - Server replacement (Domain controller and Exchange server) - Remote Monitoring and Support
Prince George County, MD – System Assurance Review
Quantico Marine Corp, VA – Domain migration
RiverCom911, WA - Systems Assurance Review, Network upgrades
Sacramento Regional Fire, CA - Exchange Server and SharePoint deployment - Remote Monitoring and Support
San Francisco, CA – Server deployments and troubleshooting
SnoPac, WA - VMware configuration review

Sumner, TN - System Assurance Review

Sunnyvale – CAD System Assurance Review

Ventura, CA - System Assurance Review

Virginia Beach, VA - Hardware upgrades

Volusia County, FL – Troubleshooting workstation disconnects

Weld County, CO – System Assurance Review

Weymouth, MA - Troubleshooting (server disconnects)