CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: PUBLIC SAFETY, FINANCE, AND STRATEGIC SUPPORT COMMITTEE

FROM: Robert Sapien, Jr.

SUBJECT: FIRE DEPARTMENT EMERGENCY RESPONSE TIMES PERFORMANCE SEMI-ANNUAL REPORT

DATE: April 9, 2018

Approved _____ Date 4-11-18

RECOMMENDATION

Accept the semi-annual report on Fire Department emergency response times performance metrics and progress on response time performance improvement strategies.

BACKGROUND

As specified in the Public Safety, Finance, and Strategic Support Committee (Committee) 2017 Work Plan, the Fire Department provides written semi-annual reports regarding emergency response time performance and progress on response time performance improvement strategies contained in the Fire Department Response Time Work Plan. The previous semi-annual report was received by the Committee on October 19, 2017.[1]

Multiple factors have been identified that challenge the Department's response time performance. Building upon the action plan presented to the Committee on June 19, 2014,[2] the Department continues to advance strategies for maximizing response time performance. This report provides a status of the Department's current response time compliance, as well as updates on ongoing response time performance improvement projects and strategies.

ANALYSIS

Response Time Standards (City and County EMS):

Fire Department response times are measured against two standards: the City of San Jose's adopted standard and the Santa Clara County Emergency Medical Services (EMS) standard.

City Standard: The City of San José's adopted standard is arrival within eight minutes 80 percent of the time for Priority 1 incidents, and arrival within 13 minutes 80 percent of the time for Priority 2 incidents. Priority 1 incidents are those incidents that are determined to require

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[1] http://sanjose.granicus.com/MetaViewer.php?meta_id=628751
[2] http://sanjoseca.gov/DocumentCenter/View/32393

immediate response with response vehicles using lights and sirens. Priority 2 incidents are those incidents that are determined to require immediate response, however, response vehicles do not use lights and sirens.

Under the City standard, the time clock begins upon **receipt** of the 9-1-1 call and stops upon arrival at the incident address. The City Priority 1 data represents system performance at *all* times and reflects all Priority 1 calls.

County Standard: The 9-1-1 Emergency Medical Services Provider Agreement between the City of San José and the County of Santa Clara requires arrival within eight minutes 90 percent of the time for all EMS calls in urban areas excluding Medical Priority Dispatch System (MPDS) triage levels Omega[3] and Alpha[4], and arrival within 13 minutes 90 percent of the time for Alpha calls in urban areas. This is more commonly referred to as the County EMS Code 3 Standard and is reported monthly.

The response time clock under the EMS Provider Agreement starts upon **dispatch** of response resources and stops upon arrival at the incident address. The agreement with the County EMS allows "exceptions" when the response network is under unusual pressure, such as during periods of time when greater alarms are occurring or when the Department is providing mutual aid. During such exception periods, Department response times not meeting the County EMS Code 3 Standard are excluded from the County EMS Code 3 response time calculations.

Response Time Compliance (City and County EMS):

Table 1 below shows the Department's monthly response time performance for fiscal year 2016-2017. In 2016-2017, Department response times averaged:

- City Standard: 71.20 percent, or 8.8 basis points below the City Standard of 8 minutes 80 percent of the time, for Priority 1 calls.

- County Standard: 90.45 percent, or .45 basis points above the County EMS Code 3 Standard of 8 minutes 90 percent of the time.

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[3] Omega MPDS triage determinant calls do not require an EMS response.
[4] Alpha MPDS triage determinant calls require an ALS or BLS first responder resource within 13 minutes.

Table 1: 2016-2017 Response Time Performance

July 2016 to August 2017											
2016						2017					
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
City Priority 1 Compliance (80% Standard)											
71.09	69.78	69.71	69.49	69.73	70.74	68.72	75.32	75.50	74.88	70.36	69.03
County EMS Code 3 Compliance (90% Standard)*											
90.38	89.53	90.48	89.63	89.47	90.16	89.76	92.57	92.04	91.95	89.86	89.64

Compliance standard reflects performance reported to County EMS adjusted for allowable exemptions.

Table 2 below shows the Department's monthly response time performance for fiscal year 2017-2018 to date. To date, Department response times averaged:

- City Standard: 70.70 percent, or 9.3 basis points below the City Standard of 8 minutes 80 percent of the time, for Priority 1 calls.

- County Standard: 89.8 percent, or .2 percent below the County EMS Code 3 Standard of 8 minutes 90 percent of the time.

Table 2: 2017-2018 Response Time Performance to Date

July 2017 to August 2018											
2017						2018					
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
City Priority 1 Compliance (80% Standard)											
69.46	70.35	71.43	68.47	72.05	70.23	71.08	72.34	70.88			
County EMS Code 3 Compliance (90% Standard)*											
90.38	89.57	91.15	89.51	90.43	89.91	89.60	89.39	88.32			

Compliance standard reflects performance reported to County EMS adjusted for allowable exemptions

Total call volume for 2016-2017 was 90,869. By comparison, in 2012-2013, the Fire Department responded to 77,481 calls for service. This represents a 15 percent increase in call volume for the five-year period, or approximately 3 percent per year. Increasing call volume, sparse deployment (or distance between fire stations), and increasing traffic congestion continue to challenge Department performance as described in the 2016 Organizational Review conducted by Citygate Associates, LLC.

In recent budget years, the City Council has approved funding to address response time performance, including restoring Fire Engines 30 and 34 in the 2016-2017 Adopted Budget, which provided the Fire Department with much needed resources.

In addition to the restoration of two Engines, the Department received ongoing overtime funding to maintain Department sworn minimum staffing levels, with the goal of preventing the "browning out" of fire companies when company members are absent. This results in more resources being available to respond to calls for service. Additionally, and the Department has continued to utilize allocated training overtime to maximize availability of resources.

The Department continues to show improvement in the area of turnout time. Continued Department messaging during training sessions and normalization of operations following discontinuation of "pre-alert" dispatch procedures are the primary factors influencing performance improvement. Travel distance is the principal challenge to travel time performance. In addition to utilizing allocated training overtime, in January 2017, the Department replaced Mobile Data Computers (MDC) on all front line apparatus and underwent a Computer Aided Dispatch (CAD) software upgrade. Both of these actions provided improved response routing capabilities. Also in January 2017, the Department implemented the 48/96 Work Schedule Pilot Program, which reduced platoon changes by 50 percent, thus reducing related inefficiencies. Each of these changes could result in improved response times, however more information is needed for the Department to fully understand causal factors.

The Department will also focus closely on underlying response time data as it relates to the MDC/CAD upgrade and automated en-route and on scene reporting to ensure ongoing uniformity. The Department anticipates that the Emergency Vehicle Preemption (EVP) project, which is scheduled to be implemented in July 2018, will also result in response time performance improvements.

Workload reduction is another approach to increasing unit availability, which may be achieved through expansion of the Omega MPDS triage determinant. However, as the City's population grows and 911 call volume and traffic congestion continue to trend upward, the Department projects only modest impacts through this strategy. The Department continues to advance multiple response time improvement strategies included in the Response Time Work Plan.

Status of the Response Time Work Plan

Table 2 provides an update on action items from the Department's Response Time Work Plan:

Table 2: Response Time Work Plan

#	Project	Comments
1	Analyze/Validate Response Time Data/Determine Impact on Response Performance *Status: Completed; Evaluation Ongoing* *Timeline: Ongoing* *Segment: Overall*	The Department provided the San José Fire Department Response Time Performance Initial Analysis in April 2014 with third-party methodology review and validation by Athena Advanced Networks. This process is now ongoing and is the source of data cited in this report. The Department will monitor CAD upgrade impacts to ensure continuity of data reporting procedures.
2	Data Collection *Status: In Process* *Timeline: Ongoing* *Segment: Overall*	This effort seeks to increase the storage and scope of electronic data collection to enhance analytical capabilities to improve response times.
3	Business Intelligence Tool *Status: In Process* *Timeline: June 2018* *Segment: Overall*	Tools will provide reports and user interfaces ("dashboards") that direct organizational focus on performance driven by actionable data.
4	Data Warehouse *Status: In Progress* *Timeline: June 2018* *Segment: Overall*	This tool will centralize data from multiple sources and would be the data source for reporting and business intelligence tools.
5	Enable Intergraph iTracker ("Halo") *Status: Completed* *Timeline: January 2018* *Segment: Turnout and Travel Time*	This feature records en-route and on-scene information utilizing the Automatic Vehicle Location (AVL) system. iTracker can provide greater data reliability than manual entry via MDC performed by response personnel.
6	Implement Early Dispatch *Status: Live* *Timeline: Completed* *Segment: Call Processing Time*	In March, 2014, the Department eliminated "station pre-alerts" and adopted "early dispatch" procedures for EMS responses to improve dispatch time. As a result, all EMS dispatches became code-3 until completion of Emergency Medical Dispatch (EMD) triage. This procedure results in simultaneous dispatch of Squads, with the appropriate resource continued upon completion of triage. Emergency Fire Dispatch (EFD) procedures were also refined on August 1, 2016.

7	9-1-1 Phone System Upgrade *Status: Completed* *Timeline: March 2018* *Segment: Call Processing Time*	New system hardware installation was completed in June 2016 and system training (Power MIS) was completed in September 2016. Installation of system monitoring hardware in the control room was completed in March 2018.
8	Fire Communications Staffing *Status: In Progress* *Timeline: Ongoing* *Segment: Call Processing Time*	The Department continues efforts to accelerate recruitments and training in an effort to keep pace with attrition. The monthly vacancy average in 2017 was 7.57 full time positions. Currently, there are 7 Public Safety Radio Dispatcher and 2 Senior Public Safety Radio Dispatcher vacancies.
9	Response Area Mapping/ESZ Refinement *Status: Ongoing* *Timeline: Ongoing* *Segment: Call Processing Time*	Ongoing refinement of Emergency Service Zone (ESZ) assignments to ensure appropriate resources (station/apparatus) are dispatched.
10	Base Map Update *Status: In Process* *Timeline: Ongoing* *Segment: Call Processing Time*	Provide periodic updates to base map data for integration ("map roll") into CAD. The Department is evaluating opportunities for a countywide base map which could support multiple strategies.
11	EMS Quality Assurance Update *Status: Completed; Evaluation Ongoing* *Timeline: Ongoing* *Segment: Call Processing Time*	Training was completed in July 2016 and software and protocols upgraded August 1, 2016.
12	Organizational Review *Status: Completed* *Segment: Overall*	Citygate report accepted, along with the Department Strategic Business Plan, in June 2016
13	Turnout Time *Status: Ongoing* *Timeline: Ongoing* *Segment: Turnout Time*	Performance data isolating response continues to be developed for use by personnel and supervisors.
14	CAD to CAD Dispatch Link(s) *Status: In Process* *Timeline: TBD* *Segment: Call Processing and Travel Time*	Connect SJFD CAD system with other county agencies (including County Communications) in order to share unit and event information.
15	Border Drops *Status: On Hold* *Timeline: TBD* *Segment: Call Process and Travel Time*	Enhance auto-aid agreements to create borderless response areas. This project is dependent on CAD to CAD links and agency agreements and may require countywide GIS coordination.
16	Traffic Signal Preemption (Emergency Vehicle Preemption, EVP) *Status: In Process* *Timeline: July 2018* *Segment: Travel Time*	This effort would expand traffic signal preemption more broadly across the City. The Department is working with SJPD Communications IT and DOT to leverage DOT systems which would significantly expand signal preemption.

17	Resource Move-Ups *Status: Ongoing* *Timeline: Ongoing* *Segment: Travel Time*	Resource move-ups continue as a manual process at Fire Communications and by request from Battalion Chiefs.
18	Closest Unit Dispatch *Status: In Process* *Timeline: Fall 2019* *Segment: Travel Time*	Dispatch resources based upon apparatus proximity to the incident rather than station location. The Department is assessing time and support requirements for completion of policy work, configuration of the Hexagon CAD system, reliability of cellular network, and providing system redundancy. Completion is targeted for fall, 2019.
19	Navigation Technology *Status: In Process* *Timeline: Ongoing* *Segment: Call Processing and Travel Time*	The Department continues to refine routing effectiveness on new CAD and MDC systems. Distributed iPads and updated hard-copy maps continue to provide interim improved routing capabilities. Updated MDC maps were deployed in October 2017. Mapping updates will be continuous.
20	Unit Availability *Status: Ongoing* *Timeline: Ongoing* Segment: Travel Time	Strategies initially included a reduced number of resources unavailable due to training and decentralized training to reduce travel time to and from training. While both strategies produced greater resource availability, resulting compromises in training practices were too great to sustain. The Department continues to deploy backfill resources to cover staffing gaps created when companies are out-of-service for training, enabled by 2016 budget action
21	Deployment Refinements *Status: Ongoing* *Timeline: Ongoing* *Segment: Travel Time*	The Department continues to pursue opportunities to address service gap areas identified through the Organizational Review process. This includes real time move-ups, backfill for training, augmented staffing levels for high fire danger periods and special events.
22	Expand Omega Protocol *Status: Ongoing* *Timeline: TBD* *Segment: Overall*	The Department is presently engaged in discussions with the County EMS Medical Director to evaluate opportunities for special studies and/or response protocols to expand application of the Omega triage determinant.
23	Station Alerting System *Status: In Process* *Timeline: January 2019* *Segment: Call Processing and Turnout Time*	Budget proposal for 2016-2017 for $1.3 million was approved to support the implementation of an upgraded station alerting system. Upgraded fire station alerting system technology will automate some dispatching steps, resulting in reduced call processing times. The Department is proceeding through purchasing steps toward advancing this project. In October 2017, Council approved a funding increase for a total $1.5 million. Additional needs are being evaluated in the 2018-2019 Capital Improvement Program.

24	Response to County Jail and County Facilities	In December 2014, Santa Clara County released a Limited Scope Management Audit of Emergency Medical Services Response Times which recommended that the County develop additional policies limiting when the County Jail and Valley Medical Center call 9-1-1 for assistance on medical emergencies based on the existence of trained medical personnel at those facilities. Presently, SJFD continues to urge that the County Jail access 9-1-1 only for medical emergencies and not for non-emergency patient transport.
	Status: Ongoing *Timeline: Ongoing* *Segment: Travel Time*	

CONCLUSION

The Department will return to the Committee in fall 2018, with an update regarding Response Time Work Plan progress and current response time performance data.

/s/
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For questions, please contact Robert Sapien, Jr., Acting Fire Chief, at 408-794-6952.