CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: PUBLIC SAFETY, FINANCE, & STRATEGIC SUPPORT COMMITTEE

FROM: Robert Sapien, Jr.

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

DATE: October 3, 2018

Approved _(signature)_   Date   10-11-18

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 April 19, 2018[1].

The Department continues actions to address multiple factors challenging response time performance. Building upon the response time work 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 José's adopted standard and the Santa Clara County Emergency Medical Services (EMS) standard.

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[1] https://sanjose.legistar.com/View.ashx?M=F&ID=6191401&GUID=77FA4412-D0B9-45B0-B550-DF8F38BE0D7B

[2] http://sanjoseca.gov/DocumentCenter/View/32393

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 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 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 Emergency Medical Services 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: 71.49 percent, or 8.51 percent below the City Standard of 8 minutes 80 percent of the time, for Priority 1 calls.

- County Standard: 90.45 percent, or 0.45 percent 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 June 2017											
2016						2017					
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
City Priority 1 Compliance (80% Standard)											
71.37	69.87	69.95	70.01	70.01	70.84	68.96	75.64	75.80	75.26	70.70	69.46
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. Department response times averaged:

- City Standard: 71.38 percent, or 8.62 percent below the City Standard of 8 minutes 80 percent of the time, for Priority 1 calls.

- County Standard: 90.09 percent, or 0.09 percent above 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 June 2018											
2017						2018					
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
City Priority 1 Compliance (80% Standard)											
69.80	70.64	71.43	68.47	72.05	70.23	71.08	72.34	70.88	72.16	73.86	73.62
County EMS Code 3 Compliance (90% Standard) *											
90.50	89.57	91.15	89.51	90.43	89.91	89.60	89.39	88.32	90.31	90.95	91.43

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

Total call volume for 2017-2018 was 92,587. By comparison, in 2012-2013, the Fire Department responded to 77,481 calls for service. This represents a 19.5 percent increase in call volume for the six-year period, or approximately 3.25 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 Operating 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, 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 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.

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 Emergency Vehicle Preemption (EVP) project, will be fully deployed by December 2018. Full implementation is expected to result in improved travel time performance.

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 results through this strategy.

Status of the Response Time Work Plan

The Department continues to advance multiple response time improvement strategies included in the Response Time Work Plan.
Table 3 provides an update on action items from the Fire Department's Response Time Work Plan:

Table 3: 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: October 2018* *Segment: Overall*	These 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: October 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: Completed* *Timeline: Ongoing* *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 has implemented an accelerated recruitment process to address the vacancies in Fire Communications. Currently, there are 8.57 dispatcher vacancies. Last fiscal year Fire Communications processed 89,129 9-1-1 calls. In addition, there were 5,400 9-1-1 calls abandoned. To provide for the increase in call volume and minimize the unprocessed calls, the Fire Department will put forth a budget proposal as part of the 2019-2020 Proposed Operating Budget to add 3.0 FTE 9-1-1 call takers, one (1) per shift.
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) 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: December 2018* *Segment: Travel Time*	This effort would expand traffic signal preemption more broadly across the City. The Department is working with Police Department Communications, Information Technology Department, and Department of Transportations (DOT) to leverage DOT systems which would significantly expand signal preemption. There are currently 96 intersections activated as of September 15, 2018, with an anticipated 955 total.
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: Spring 2020* *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 Spring 2020.

19	Navigation Technology *Status: Ongoing* *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: September 2019* *Segment: Overall*	The Department is presently engaged in discussions with the Santa Clara County EMS Medical Director to evaluate opportunities for special studies and/or response protocols to expand application of the Omega triage determinant. Continued engagement with the County EMS Medical Director has resulted in a meeting, which was held on May 31, 2018 with the County EMS Medical Director and staff, Santa Clara County Department of Justice Custody Health staff, County and Agency Communications Departments, Fire Agencies and Agency Medical Directors. Progress was made to utilize the results found from the special study that is in progress, and has identified possible opportunities to expand the Omega (ambulance only) response model.
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.
24	Response to County Jail and County Facilities *Status: Ongoing* *Timeline: Ongoing* *Segment: Travel Time*	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. The County has initiated actions to reduce unnecessary 9-1-1 calls, and the Department continues to monitor County Jail facility call volume.

CONCLUSION

The Department will return to the Committee in Spring 2019, 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., Fire Chief, at (408) 794-6952.