



# Memorandum

**TO:** PUBLIC SAFETY, FINANCE &  
STRATEGIC SUPPORT COMMITTEE

**FROM:** Robert Sapien, Jr.

**SUBJECT:** FIRE DEPARTMENT CALL  
VOLUME STATUS REPORT

**DATE:** March 30, 2021

Approved

Date

4-1-21

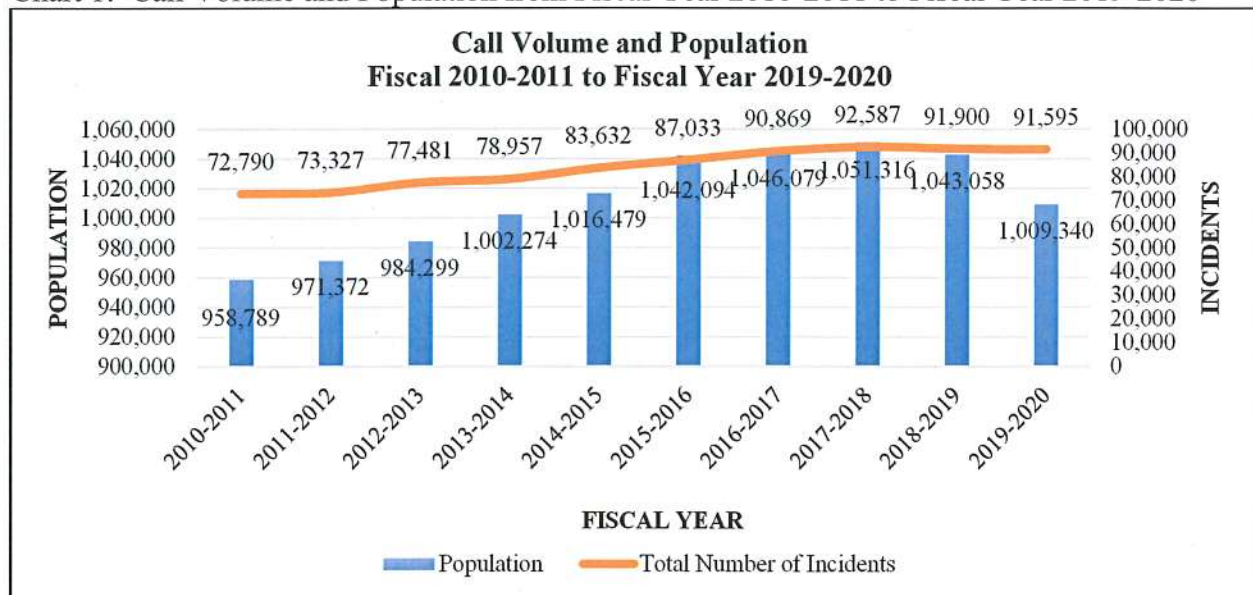
## RECOMMENDATION

Accept the status report on Fire Department call volumes, including opportunities to triage calls for service so that departmental resources can be maximized to life-saving and fire mitigation calls.

## BACKGROUND

The Fire Department provides "all-hazard" emergency response in pursuit of its mission to protect life, property, and the environment through prevention and response. Predictably, incident responses, or call volume, has steadily increased with City population growth reaching a high point in Fiscal Year 2017-2018 of 92,457. Fiscal Year 2010-2011 call volume was 72,790 compared to 91,595 in Fiscal Year 2019-2020, an increase of over 26%. City population increased by more than 5% from 958,789 in Fiscal Year 2010-2011 to 1,009,340 in Fiscal Year 2019-2020. This data is reflected in Chart 1 below.

Chart 1: Call Volume and Population from Fiscal Year 2010-2011 to Fiscal Year 2019-2020



\* Approximate population of Santa Clara County is 1,927,470 (2019 estimates)

Increased call volume has challenged the Department's ability to meet response time performance standards and to maintain balanced emergency response coverage throughout the City. To begin to address these challenges, the Department has pursued several strategies as reported to the Public Safety, Finance, & Strategic Support Committee in the Fire Department Emergency Response Times Performance Semi-Annual Report.<sup>1</sup>

On June 7, 2016, the City Council received the City of San José - Fire Department Organization Review<sup>2</sup> which included Standards of Response Coverage (SOC) analysis. The following was included in the report findings:

We find the City's deployment system does not provide City Council-adopted and best practice desired response times, especially outside of the urban core as fire station spacing increases in the suburban areas. Delivering response times to all neighborhoods at the adopted City goal will require additional resources.

Consistent with the above conclusion, the City Council has approved budget actions to restore some response resources lost following the 2008 recession and advanced The Disaster Preparedness, Public Safety and Infrastructure Bond measure to the November 6, 2018 ballot. Voters passed the \$650,000,000 general obligation bond measure (Measure T) which included "...construction of Fire Station 37 and the upgrade and/or rebuild of additional fire stations to improve emergency response times based on the Fire Chief's assessment of projects that are critically needed to improve emergency response..." At the June 18, 2019 City Council meeting, the Department's Measure T - New Fire Station Placement Prioritization<sup>3</sup> recommendations were

<sup>1</sup> [Fire Department Emergency Response Times Performance Semi-Annual Report, October 9, 2019](#)

<sup>2</sup> [Fire Department Organizational Review, June 7, 2016](#)

<sup>3</sup> [Measure T - New Fire Station Placement Prioritization, June 6, 2019](#)



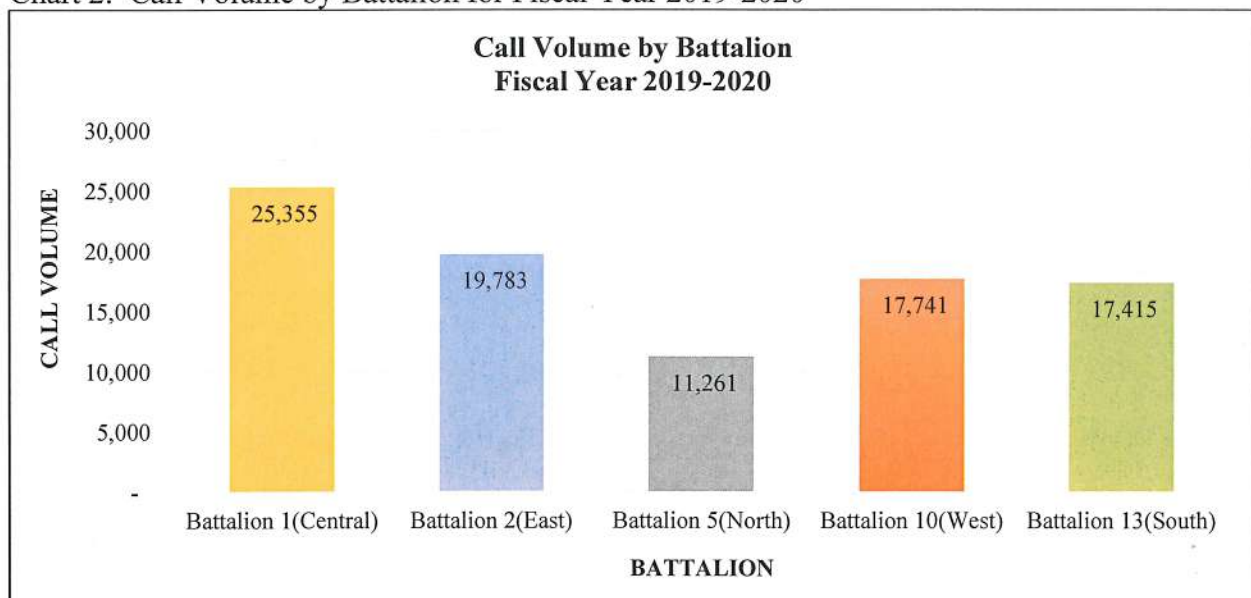
accepted by the City Council, initiating the construction of three new fire stations and replacement of two existing fire stations.

The additional fire stations provided by Measure T and continued advancement of response time performance improvement strategies will, at least temporarily, result in improved response time performance and resource availability, however continued increases in population and emergency call volume will continue to challenge Department resources.

## **ANALYSIS**

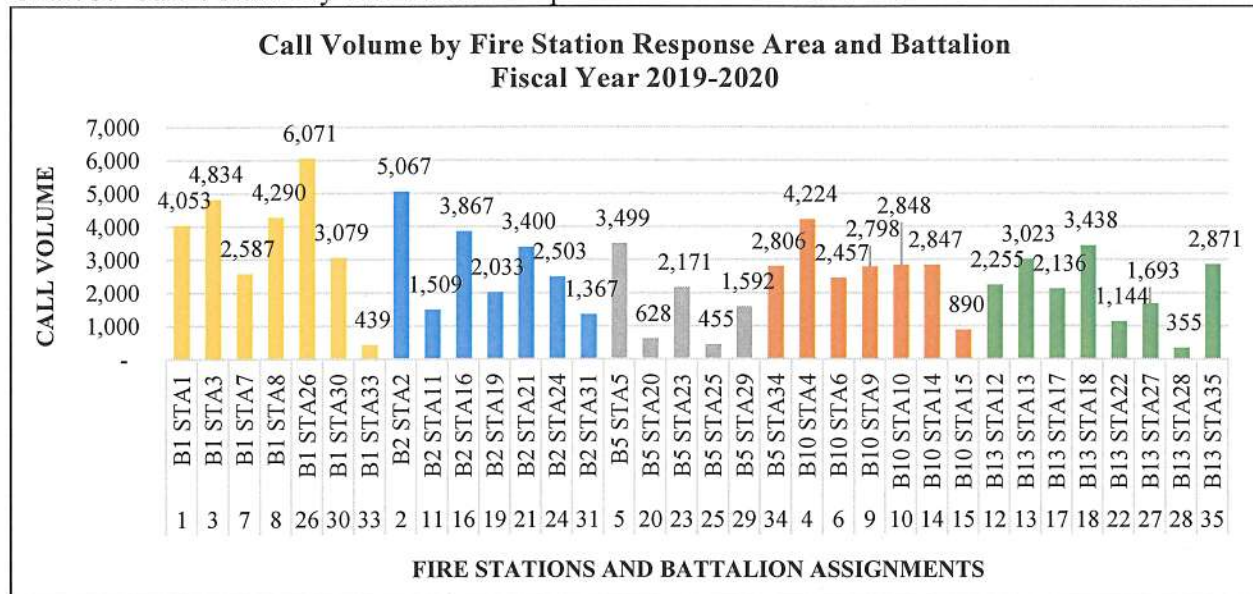
Generally, call volume is highest in the core of the City and lowest at the perimeter. As indicated in Chart 2 below, Battalion 1 which is centrally located, had 25,355 incidents in Fiscal Year 2019-2020. At peak periods, resources from other battalions are drawn into the core of the City as Battalion 1 resources are drawn down.

Chart 2: Call Volume by Battalion for Fiscal Year 2019-2020



Fire stations are located to provide coverage throughout the City, however population densities and service demands can vary greatly for each station response area as shown in Chart 3 below. It is important to note that call volume numbers reflect single emergency incidents and not the total number of resource responses. A single incident may require a single resource response such as a Squad or Engine Company or several resource responses including multiple alarms of resources. Thus, incident response numbers only partially represent workloads for each of the fire stations.

Chart 3: Call Volume by Fire Station Response Area and Battalion for Fiscal Year 2019-2020



\*Fire Station 33 is currently closed however the response area remains in the Computer Aided Dispatch (CAD) system. Closest appropriate resources are dispatched to incidents in Station 33's response area.

The high call volume in the core of the City negatively impacts response time performance. Chart 4 below reflects call volume intensity ranging from lowest (blue) to highest (red). Current station response area call volumes result in reduced resource availability and compromised response time performance. Chart 5 reflects late response (travel times greater than 4 minutes) intensity ranging from lowest (green) to the highest number of late response (orange) showing how resource draw down impacts response time performance.

Chart 4: Call Volume Heat Map 2020

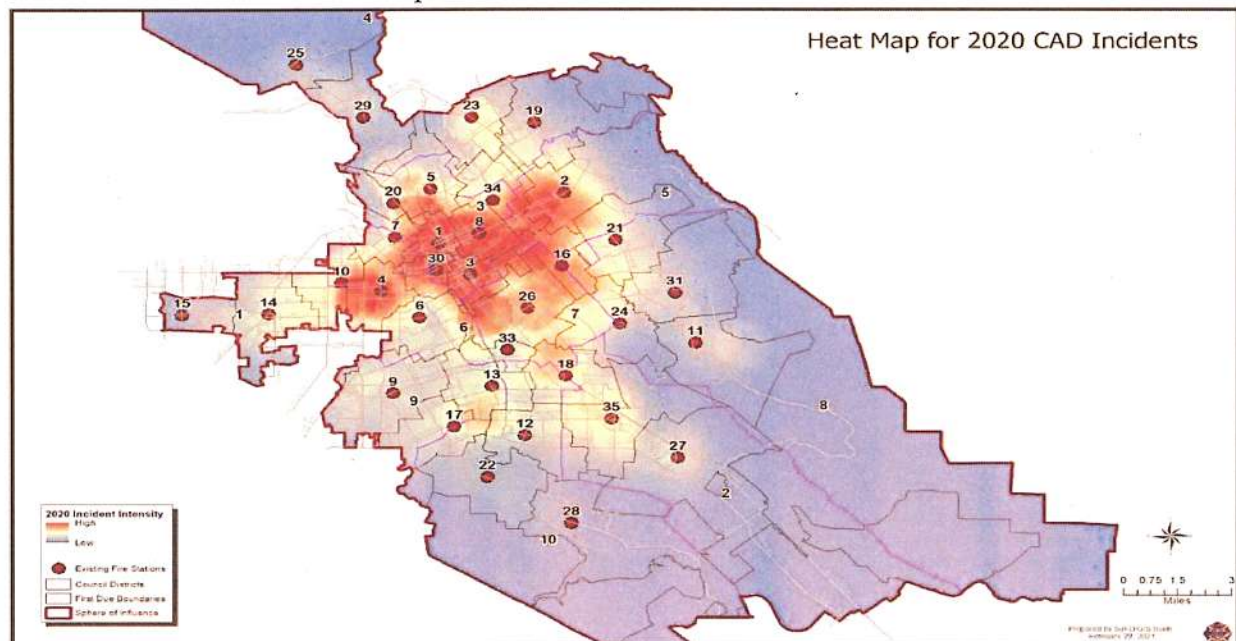
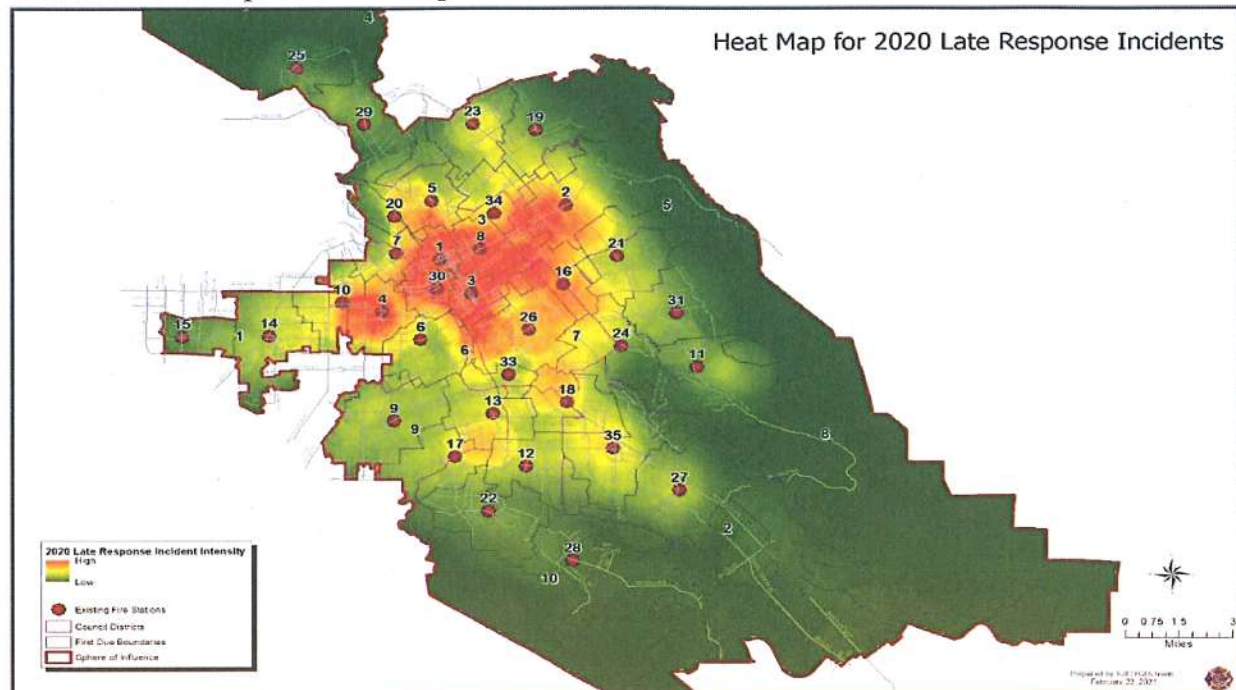




Chart 5: Late Response Heat Map 2020



### Call Type Distribution

Chart 6: Call Type Distribution for Fiscal Year 2019-2020

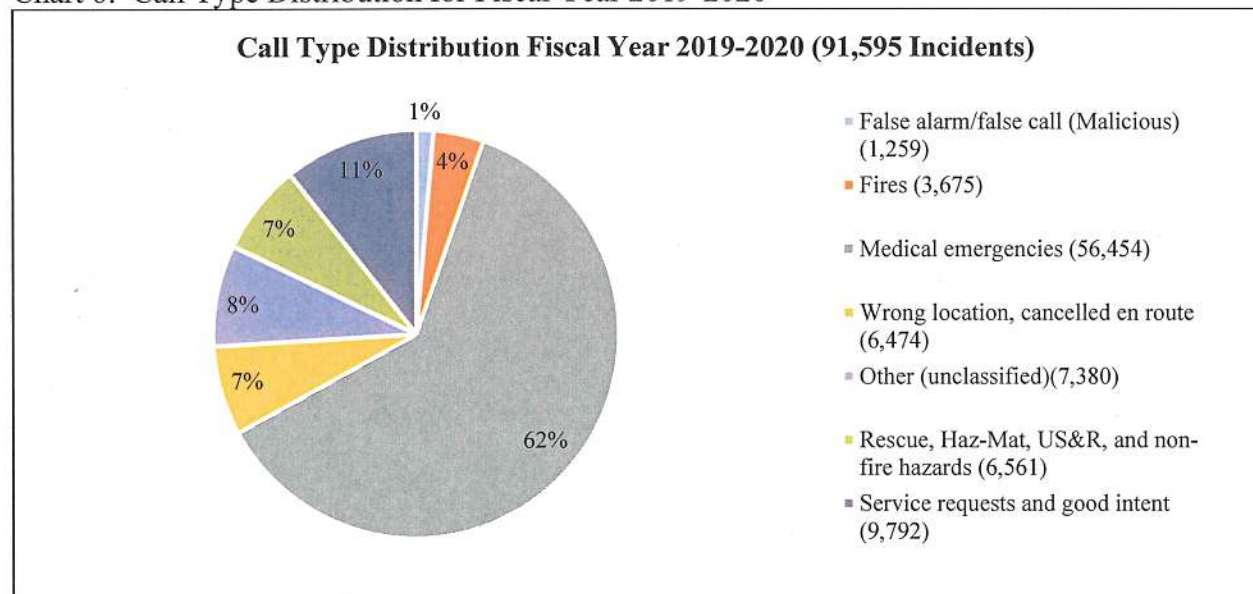


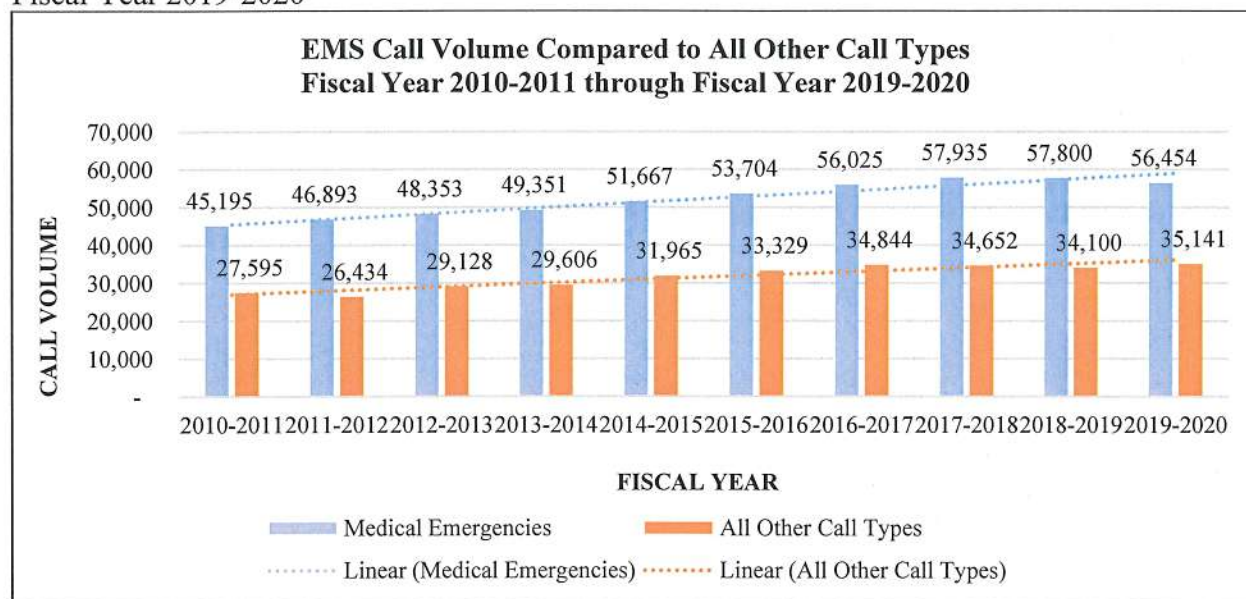
Chart 6 provides the call type distribution of the 91,595 incidents in Fiscal Year 2019-2020. Each call type was within 1% point from the prior year's distribution with a slight increase in the number of fire incidents and slight decreases in false alarm/false calls and medical emergencies. In March 2020, the Department closely monitored emergency medical call volume, anticipating a

potential spike due to COVID-19. However, once Public Health shelter-in-place orders were issued, the Department experienced a marked decrease in call volume through the end of the fiscal year, and there was no clearly discernable change in call type distribution.

### *Growing Population*

The Department anticipates that population will continue to drive call volume. A closer look at call types reveals that emergency medical calls (EMS) call volume has increase generally proportionate to all other call types (fire, rescue, hazardous materials emergencies, non-fire hazards, service requests and good intent, false alarm/false call, wrong location and cancelled en route, and other).

Chart 7: EMS Call Volume Compared to All Other Call Types Fiscal Year 2010-2011 through Fiscal Year 2019-2020



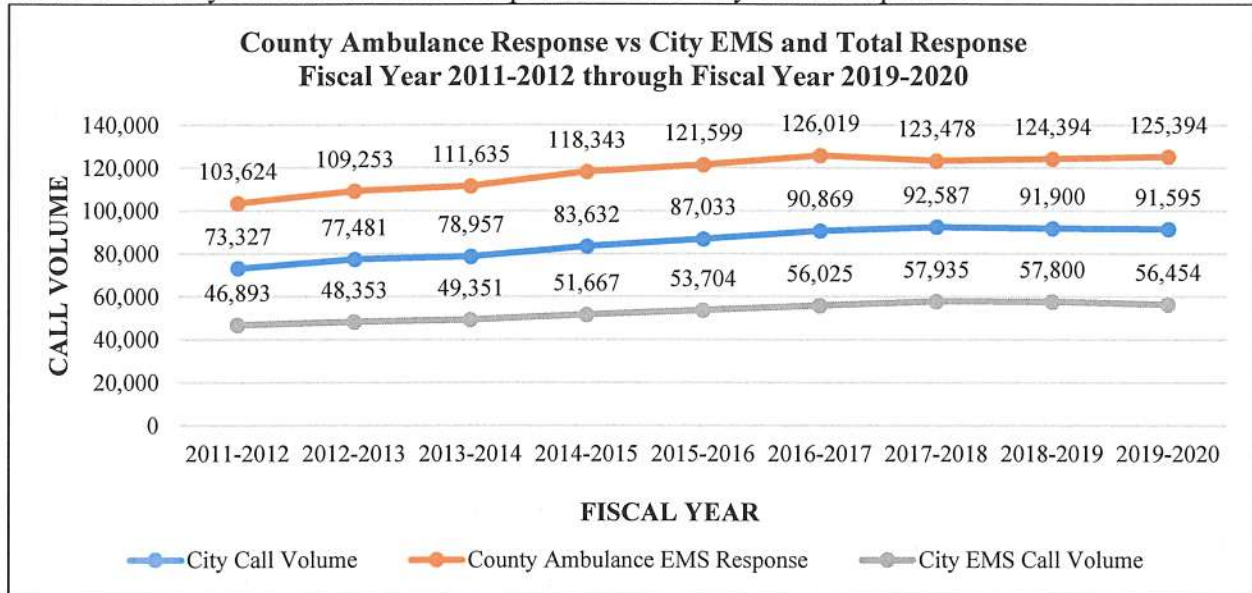
In Chart 7, EMS call volume increased 25% from 45,195 to 56,454 from Fiscal Year 2010-2011 through Fiscal Year 2019-2020. Total responses for all other call types increased by over 27% from 27,595 to 35,141.

Call volumes are increasing countywide; with City EMS call volume increasing at a similar pace to countywide County Ambulance responses. The Santa Clara County Emergency Medical Services 2020 Annual Report<sup>4</sup> provides 911 ambulance call volume history from calendar year 2012 to 2020. Chart 8 below shows that County 911 Ambulance responses increased by approximately 21% from 103,624 in Fiscal Year 2011-2012 to 125,394 in Fiscal Year 2019-2020. In the same period, City total responses increased by approximately 25% from 73,327 to 91,595 and City EMS call volume increased by approximately 20% from 46,893 in Fiscal Year 2011-2012 to 56,454 in Fiscal Year 2019-2020.

<sup>4</sup> [Santa Clara County Emergency Medical Services 2019 Annual Report](#)



Chart 8: County Ambulance EMS Responses versus City EMS Responses



### *Aging Population*

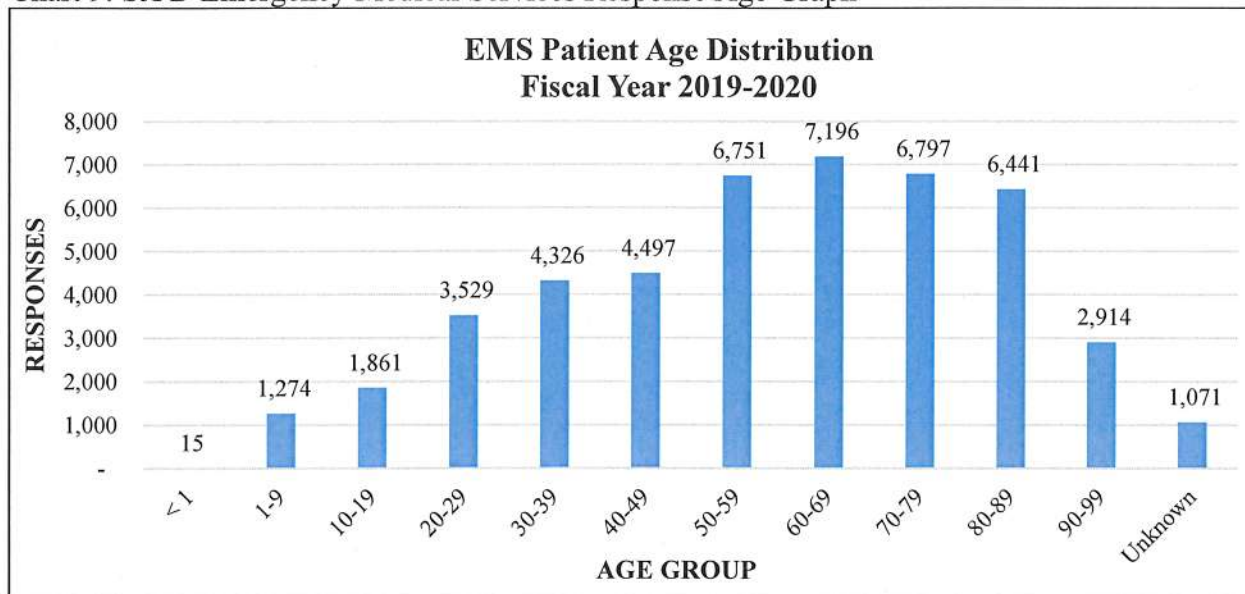
According to the California State Plan on Aging 2017-2021<sup>5</sup>, the number of Santa Clara County residents above age 65 will increase 99% from 277,700 in 2010 to 553,409 in 2030, and County residents age 85 and older is estimated to increase 85% from 28,039 in 2010 to 51,772 in 2030. The Plan on Aging makes the following statement regarding health care demands of persons age 85 and over:

The current size of the population age 85 and over, and the projected increase in this age group, is notable. Those 85 and older have a significantly higher rate of severe chronic health conditions and functional limitations that result in the need for more health and supportive services. The rapid growth of this age group has many implications for individuals, families, communities, and government.

In Fiscal Year 2018-2019, available patient age data for Department EMS care indicated that 51% of patients were age 60 and over and 66% of patients were age 50 and over. Chart 9 below provides emergency medical response distribution across patient age groups for Fiscal Year 2019-2020.

<sup>5</sup> [California State Plan on Aging 2017-2021](#)

Chart 9: SJFD Emergency Medical Services Response Age Graph



#### *Medical Priority Dispatch System*

The Department utilizes the Medical Priority Dispatch System (MPDS) and Fire Priority Dispatch System (FPDS) to triage incoming 911 calls to dispatch the best appropriate resources. The MPDS is a unified system used by many dispatch centers to dispatch appropriate help to medical emergencies. MPDS starts with the dispatcher asking the caller questions. These questions allow the dispatchers to categorize the call and set a priority level ranging from minor to life-threatening depending on the severity of the patient's condition. The lines of questions also lead the dispatcher to providing the appropriate medical instructions to callers before Department resources arrive on scene. The MPDS determinates include Omega, Alpha, Bravo, Charlie, Delta, and Echo. Fire resources respond to all determinate levels except for Omega which is the lowest acuity level. Based upon a 2001 City Auditor recommendation (Report #2001-05, #3) the Department has sought opportunities to expand the use of the Omega protocol and to identify alternate methods to serve the lowest level medical emergencies. Because progress in this area requires statewide and County change, progress has been slow and ultimately the number of calls that would appropriately fall into the Omega determinate level is low.

#### *High EMS Demand Facilities*

With little progress has been made in expanding the use of the Omega MPDS protocol, the Department shifted focus to reducing EMS calls to high demand facilities including the Santa Clara County Main Jail Complex, Santa Clara Valley Medical Center, and others such as managed care, assisted living, and shelters. Working with the Santa Clara County Emergency Medical Services Agency (County EMSA), new procedures have been adopted at the County Jail to reduce unnecessary 911 calls where non-emergency interfacility ambulance services are more appropriate. Additionally, the Department continues to engage with County EMSA to evaluate

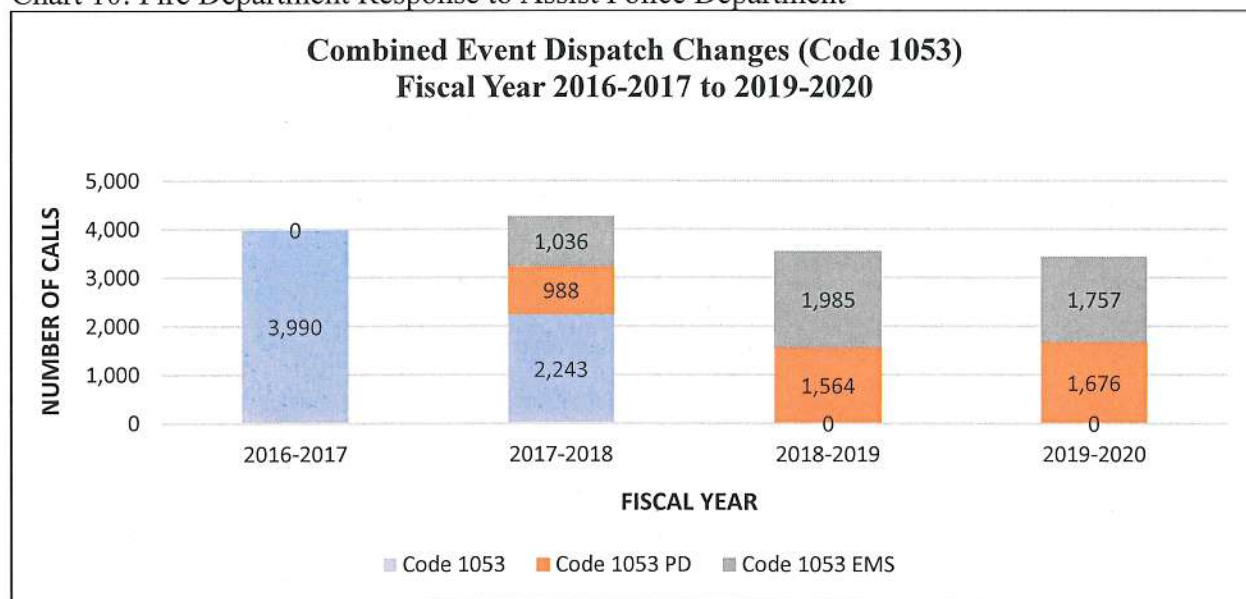


response data and identify appropriate and sustainable service delivery options for other high EMS demand facilities.

### *Dispatch Procedures*

The Fire Department heard feedback from field personnel that they felt that they were frequently being dispatched to law enforcement only calls. The Fire Department engaged with the Police Department to better understand the issue and to identify a remedy. Beginning January 1, 2018, a Police Department dispatch policy change resulted in a reduction of over 1,500 Fire Department incidents. This change eliminated a “combined event” type code (1053) and replaced it with two other codes which specified the need for police response only or emergency medical services (EMS) response need. As shown in Chart 10 below, in Fiscal Year 2016-2017 there were 3,990 dual responses (both Police and Fire) under the 1053 type code. The partial year change in Fiscal Year 2017-2018 resulted in 988 calls where the Fire Department did not need to respond, and in the full year of implementation in Fiscal Year 2019-2020, Fire Department response was eliminated from 1,676 Police Department incidents.

Chart 10: Fire Department Response to Assist Police Department



### *Bay Area Rapid Transit*

Based upon conversations with fire agencies with experience serving areas with Bay Area Rapid Transit (BART) service, the Department anticipated increased call activity proximal to BART stations and especially at end of line stations. With the recent opening of the Berryessa/North San José BART Station, the Department is experiencing frequent calls for service both intermittently and at particular times of day at that location. The Department will evaluate response patterns and seek to identify mitigations. It should be noted that it is likely that BART ridership to this station has been low due to shelter-in-place requirements, and call volume experience may increase as ridership increases post-COVID-19.

### *Local Mutual Aid*

Call volume is increasing throughout the county and particularly in areas south of the City including Morgan Hill and Gilroy. San José has historically provided mutual aid support within the county and beyond. Locally, this is achieved through automatic aid and mutual aid agreements. Automatic aid is established to assign the closest station to areas regardless of jurisdictional boundaries, within specified limits. Automatic aid is generally designed to be reciprocal and has little or no impact on participating agency call volume. In county mutual aid on the other hand is provided on a needs basis. As call volume increases in the City and response time performance continues to be challenged, mutual aid is becoming increasingly difficult to support. In past years, as resources were released to provide mutual aid support for other agencies, other resources could be moved up to cover vacated areas. Today, as resource availability decreases because of higher call volume, it is increasingly difficult to provide backfill resources and maintain response time performance levels.

### *Public Education and Safety*

The 2019-2020 Adopted Operating Budget included the addition of a Public Information Manager and a Video/Multimedia Producer which largely focuses on Public Education messaging including appropriate use of the 911 system and public health and safety information aimed at reducing fires, illness, and injuries. The Department continues to push public messaging toward minimizing the risk of spread of novel coronavirus and continues to work with partners to curb other causes of fire and injury including fireworks abatement and Vision Zero and traffic safety efforts. Public education and safety efforts are expected to reduce the number and severity of emergency calls.

## **CONCLUSION**

The Department anticipates that population growth will continue to drive call volume. As high-density housing and larger commercial projects are developed, impacts will likely continue to be unbalanced across fire station response areas, further straining resource availability. As mass transportation becomes more readily available to San Jose, the call volumes are expected to rise with an increase in daily population. To continue to effectively provide effective all-hazard response in the City and support other agencies through mutual aid, the Department will need to meet its City call volume demands. Continued focus on response time improvement initiatives and performance optimization will be critical while new fire stations are being constructed and additional response resources are funded. Additionally, the Department will continue to engage at the county and state levels to advance effective and sustainable EMS delivery model changes.



March 30, 2021

**Subject: Fire Department Call Volume Status Report**

Page 11

### **EVALUATION AND FOLLOW-UP**

The Department will continue to monitor call volume data and will report annually to the Public Safety, Finance, and Strategic Support Committee.

### **COORDINATION**

This memorandum has been coordinated with the City Attorney's Office.

/s/  
ROBERT SAPIEN, JR  
Fire Chief, Fire Department

For questions, please contact Robert Sapien, Jr., Fire Chief, at (408) 794-6952.